

Truth never triumphs - its [opponents](#) just die out.

Geheimrat Max Planck

https://en.wikiquote.org/wiki/Max_Planck

=====

Gravitational Wave Miracles?

http://www.god-does-not-play-dice.net/gw_miracles.pdf

July 24, 2016, gw_miracles.pdf, 2 pages.

D. Chakalov

July 24, 2016

=====

Subject: Re: Gravitational Wave Miracles

Date: Tue, 26 Jul 2016 10:06:18 +0300

Message-ID:

<CAM7EkxnrzVTXLpMK2oE3m79z87tcm8eK78zgZJY7oY8iH6h3gA@mail.gmail.com>

From: Dimi Chakalov <dchakalov@gmail.com>

To: Jake Mattinson <fersotj@gmail.com>

Cc: Steven Weinberg <weinberg@physics.utexas.edu>, Steven Weinstein

<sw@uwaterloo.ca>,

Alan J Weinstein <ajw@caltech.edu>, Richard Price <rprice.physics@gmail.com>,

Josh Goldberg <goldberg@phy.syr.edu>, Ronald J Adler <gyraron@gmail.com>,

Karel V Kuchar <kuchar@physics.utah.edu>, Andrzej Mariusz Trautman

<amt@fuw.edu.pl>,

Kip <kip@tapir.caltech.edu>, Luc Blanchet <blanchet@iap.fr>,

Bruce Allen <bruce.allen@aei.mpg.de>, Luciano <rezzolla@th.physik.uni-frankfurt.de>,

Gary Horowitz <gary@physics.ucsb.edu>, David Garfinkle <garfinkl@oakland.edu>,

Rainer Weiss <weiss@ligo.mit.edu>, Alessandra Buonanno

<buonanno@physics.umd.edu>,

Gabriela González <gonzalez@lsu.edu>, Stefano Vitale <vitale@science.unitn.it>,

Charles Torre <charles.torre@usu.edu>, Chris Isham <c.isham@imperial.ac.uk>,

Norbert Straumann <norbert.straumann@gmail.com>, Yuan K Ha

<yuanha@temple.edu>,

Daniel Kennefick <danielk@uark.edu>, Luca Bombelli <luca@phy.olemiss.edu>,

Michele Maggiore <michele.maggiore@unige.ch>, Gerard Auger <auger@apc.univ-

paris7.fr>,

Eric Plagnol <plagnol@apc.univ-paris7.fr>, Remo <ruffini@icra.it>,

Antoine Petiteau <antoine.petiteau@apc.univ-paris7.fr>, Alexandre Le Tiec

<letiec@obspm.fr>,

Jerome Novak <Jerome.Novak@obspm.fr>, Thibault Damour <damour@ihes.fr>,

Alain Blanchard <alain.blanchard@ast.obs-mip.fr>, Jean-Philippe Uzan <uzan@iap.fr>,

Lukas <lukas.ifsits@univie.ac.at>, Piotr <piotr.chrusciel@univie.ac.at>,

Sergiu Klainerman <seri@math.princeton.edu>, Sascha Husa <sascha.husa@gmail.com>, Robert Beig <robert.beig@univie.ac.at>, Jörg Frauendiener <joergf@maths.otago.ac.nz>, Laszlo Szabados <lbszab@rmki.kfki.hu>, Adam Helfer <helfera@missouri.edu>, Greg Galloway <galloway@math.miami.edu>, John Baez <baez@math.ucr.edu>, Paul Tod <tod@maths.ox.ac.uk>, Domenico Giulini <giulini@itp.uni-hannover.de>, Jose Geraldo Pereira <jpereira@ift.unesp.br>, Robert Geroch <geroch@midway.uchicago.edu>, Demetrios Christodoulou <demetri@math.ethz.ch>, George Ellis <gfrellis@gmail.com>, Gian Michele Graf <gian-michele.graf@itp.phys.ethz.ch>, Helmut Friedrich <hef@aei.mpg.de>, John Stachel <john.stachel@gmail.com>, Ettore Minguzzi <ettore.minguzzi@unifi.it>, Lars Andersson <laan@aei.mpg.de>, Ezra Newman <newman@pitt.edu>, Christian Pfeifer <christian.pfeifer@itp.uni-hannover.de>, Sascha Husa <sascha.husa@uib.es>, Alan Rendall <rendall@uni-mainz.de>, Saul Teukolsky <saul@astro.cornell.edu>, Niall Murchadha <niall@ucc.ie>, Bernard Schutz <Bernard.Schutz@aei.mpg.de>, Eric Gourgoulhon <eric.gourgoulhon@obspm.fr>, David B Malament <dmalamen@uci.edu>, Erik Curiel <erik@strangebeautiful.com>, Xiao Zhang <xzhang@amss.ac.cn>, Mu-Tao Wang <mtwang@math.columbia.edu>, Mike Cruise <a.m.cruise@bham.ac.uk>, Christian Wuthrich <beyondspacetimeseminar@gmail.com>, Zhaoyan Wu <zhaoyanwu2000@yahoo.com>, Takashi Nakamura <takashi@tap.scphys.kyoto-u.ac.jp>, Hiroyuki Nakano <hinakano@yukawa.kyoto-u.ac.jp>, Tomoya Kinugawa <kinugawa@tap.scphys.kyoto-u.ac.jp>, Tetsuya Shiromizu <shiromizu@math.nagoya-u.ac.jp>, Tatsuya Matsumoto <matsumoto@tap.scphys.kyoto-u.ac.jp>, Avneet <avneet.singh@aei.mpg.de>, Maria Alessandra Papa <maria.alessandra.papa@aei.mpg.de>, Jean-Pierre Bourguignon <jpb@ihes.fr>, Heinz-Bernd Eggenstein <heinz-bernd.eggenstein@aei.mpg.de>, Emanuele <berti@wugrav.wustl.edu>, Clifford Will <cmw@wuphys.wustl.edu>, William G Unruh <unruh@physics.ubc.ca>, David Shoemaker <dhs@mit.edu>, Stan Whitcomb <stan.whitcomb@ligo.org>, Deirdre Shoemaker <deirdre.shoemaker@physics.gatech.edu>, Damien Texier <contactesa@esa.int>, C Y Lo <chungy.lo@gmail.com>, Jose Rodriguez <jose.rodriguez2@correo.uis.edu.co>, Jorge Rueda <jorge.rueda@icra.it>, Nigel <n.bishop@ru.ac.za>, Rosalba Perna <rosalba.perna@stonybrook.edu>, Abraham Loeb <aloeb@cfa.harvard.edu>, Valerie Connaughton <valerie@nasa.gov>, abbott_b@ligo.caltech.edu, anderson_s@ligo.caltech.edu, Gustav <g.holzegel@imperial.ac.uk>, barish_b@ligo.caltech.edu, sarah.gossan@tapir.caltech.edu, gustafson_e@ligo.caltech.edu, JulieHiroto LIGO <jhiroto@ligo.caltech.edu>, Kenneth Libbrecht <kgl@caltech.edu>, Bob Taylor <taylor_r@ligo.caltech.edu>, yamamoto_h@ligo.caltech.edu, zweizig_j@ligo.caltech.edu, swang5@caltech.edu, zhang_l@ligo.caltech.edu, Mike <zucker_m@ligo.mit.edu>, Joan Centrella <joan.centrella@nasa.gov>, Marco <marco.drago@aei.mpg.de>, Adrian Cho <acho@aaas.org>, Mark Hannam <markodh@googlemail.com>, Pedro Marronetti <pmarrone@nsf.gov>, Lee Samuel Finn <lsfinn@psu.edu>, Beverly Berger <grgsocietymail@gmail.com>, César García Marirrodriga <Cesar.Garcia@esa.int>, Paul McNamara <paul.mcnamara@esa.int>, Ian Harrison <ian.harrison@esa.int>,

Jake:

> I am an undergraduate in physics

Great. You should be still able to think.

> Isn't the model for + and X polarizations based on the need for a set of
> basis tensors?

For example, consider

https://en.wikipedia.org/wiki/Cauchy_stress_tensor

The stress tensor itself does NOT act on matter. It only *describes* what happens in a physical system. If it could act on matter, it will be a ghost:

<http://www.god-does-not-play-dice.net/excerpt.jpg>

So how do you answer Q1 and Q2 in

http://www.god-does-not-play-dice.net/gw_miracles.pdf ?

D. Chakalov

chakalov.net

NOTE

I obtained the impression that have understood the coupling of matter to geometry only once, at the end of June 1972, at age 20. It was a beautiful feeling, which lasted until the end of 1973 and never came back. How can we understand something that acts like a force and is related to the entire spacetime, but is not a physical force? See the note from 24 May 2016 [below](#).

D. Chakalov

July 25, 2016

=====

Subject: An overview of gravitational waves: Theory and detection. Ed. by Gerard Auger and Eric Plagnol, World Scientific, 2016.

Date: Fri, 15 Jul 2016 04:59:50 +0300

Message-ID: <CAM7EkxmEb-

Tw=FCj=3+6CvrbrF9aKHjUwbnxCpaXaMRiiaE=_Q@mail.gmail.com>

From: Dimi Chakalov <dchakalov@gmail.com>

To: Gerard Auger <auger@apc.univ-paris7.fr> ,

Eric Plagnol <plagnol@apc.univ-paris7.fr> ,

Antoine Petiteau <antoine.petiteau@apc.univ-paris7.fr> ,

Alexandre Le Tiec <letiec@obspm.fr> ,

Jerome Novak <Jerome.Novak@obspm.fr> ,

Thibault Damour <damour@ihes.fr> ,

Luc Blanchet <blanchet@iap.fr> ,

Alain Blanchard <alain.blanchard@ast.obs-mip.fr> ,

Jean-Philippe Uzan <uzan@iap.fr>,
Roland Omnes <roomnes@wanadoo.fr>,
Cc: Daniel Kennefick <danielk@uark.edu>,
Luca Bombelli <luca@phy.olemiss.edu>,
John Stewart <j.m.stewart@damtp.cam.ac.uk>

Mes chers amis,

You are immensely gullible. GW150914 is a fraud (supercherie). Check out the facts in

GW150914: Are Cows Spherical?

<http://www.god-does-not-play-dice.net/GW150914.pdf>

Don't ever say that you knew nothing about it.

D. Chakalov
chakalov.net

NOTE

Look in 'Theory of Gravitational Waves' by Alexandre Le Tiec and Jerome Novak, arXiv:1607.04202v1 [gr-qc], <http://arxiv.org/abs/1607.04202v1>, p. 33:

"A generic gravitational wave can thus be understood as a superposition of two oscillating tidal fields that propagate at the vacuum speed of light."

In the first place, what is the "superposition" of two gravitational-wave fields with h_+ & h_x , as read by the clock of some GW astronomer, say, Kip Thorne?

http://www.god-does-not-play-dice.net/kip_slide_5.jpg

Something like $|live\ cat\rangle$ & $|dead\ cat\rangle$ à la Schrödinger? Naaah. According to Freeman Dyson (see p. 7 in GW150914.pdf in my email above), a generic GW "may be considered to be a coherent superposition of a large number of gravitons," so how these mythical "gravitons" will be arranged to keep the angle between h_+ & h_x ? What is the *background* with respect to which you can produce such miracle?

Then what will be the superposition of these oscillating tidal fields in the case of strong GWs? How will you *separate* two strong gravitational-wave fields, to make sure that they will never conflate and intermingle? By "magic" or by Biblical "miracle"? Or perhaps with lots of vodka?

<http://www.god-does-not-play-dice.net/russian.html>

See the bold facts in

http://www.god-does-not-play-dice.net/Maggiore_p32.jpg

<http://www.god-does-not-play-dice.net/Schutz.pdf>

GW150914 is a FRAUD. You cannot observe something that cannot possibly exist, like pink unicorns dancing with red herrings or back hole merger emitting "gravitons" by linearized GWs.

This is an insult to our intelligence. Don't ever say that you knew nothing about it.

D. Chakalov
July 15, 2016

=====

Subject: arXiv:1603.07018v2, Boundary conditions, Eq. 2.1
Date: Mon, 4 Jul 2016 13:16:29 +0300
Message-ID:
<CAM7EkxkDBJKz6aOK5miSgZ2Upw4atb0dtGEXkvgH1pGwRw5ivA@mail.gmail.com>
From: Dimi Chakalov <dchakalov@gmail.com>
To: Lukas <lukas.ifsits@univie.ac.at>,
Piotr <piotr.chrusciel@univie.ac.at>,
Sergiu Klainerman <seri@math.princeton.edu>,
Sascha Husa <sascha.husa@gmail.com>,
Robert Beig <robert.beig@univie.ac.at>,
Jörg Frauendiener <joergf@maths.otago.ac.nz>,
Laszlo Szabados <lbszab@rmki.kfki.hu>,
Adam Helfer <helfera@missouri.edu>,
Andrzej Mariusz Trautman <amt@fuw.edu.pl>

Lukas and Piotr:

In order to define boundary conditions, you must solve the problems from Penrose's conformal poetry:

http://www.god-does-not-play-dice.net/Penrose_omega_zero.jpg
http://www.god-does-not-play-dice.net/Chuck_Norris.jpg

If you wish to speculate about "what does the gravitational field of a radiating asymptotically Minkowskian system look like?" (David B. Singleton et al., gr-qc/9305021), you must install GW mirrors at null-and-spacelike infinity.

Then you could start thinking about the "device that measures the energy carried away by the gravitational field" (p. 3),
<http://homepage.univie.ac.at/piotr.chrusciel/teaching/Energy/Energy.pdf>

... and debunk the fraud known as GW150914,
<http://www.god-does-not-play-dice.net/GW150914.pdf>

First things first.

D. Chakalov
chakalov.net

NOTE

In the conformal recipe by R. Penrose from January 1963 (see the first link above), there is a tacit clopen interval $[A; \omega)$, where A denotes the current "age" of spacetime, some 13.42 billion light years, [https://en.wikipedia.org/wiki/Orders_of_magnitude_\(length\)](https://en.wikipedia.org/wiki/Orders_of_magnitude_(length))

... undergoing accelerated "expansion"
http://www.nobelprize.org/nobel_prizes/physics/laureates/2011/

... toward null infinity. You must install GW mirrors for the physical spacetime **exactly** at $[\omega]$, jointly with GW mirrors **exactly** at spacelike infinity (Spi & Scri).

Notice the clopen interval $(0; 1]$ for the cosmological time on p. 2 and footnote 1 in arXiv:1607.00002v1 [astro-ph.CO] by Arturo Avelino and Robert Kirshner. To quote José M.M. Senovilla, Singularity Theorems in General Relativity, arXiv:physics/0605007, p. 6: "This is some kind of boundary, or margin, which is not part of the space-time but that, somehow, it is accessible from within it. Thus the necessity of a rigorous definition of the boundary of a space-time."

Only the "boundary" of spacetime is not physical, as we know since Plato: see Fig. 7 on p. 8 in 'The Spacetime' at chakalov.net. There are no "mirrors" for GWs nor gravitational spin-2 bosons called "gravitons". Gravity is the result from matter acting on itself, as explained with the school of fish analogy from May 24, 2016 [below](#).

GW150914 is a FRAUD. You cannot observe something that cannot exist. Say, pink unicorns dancing with red herrings, or back holes emitting "gravitons" by linearized GWs.

D. Chakalov
July 4, 2016
Last updated: July 15, 2016

=====
=====

Subject: Re: arXiv:1603.07018v2, Boundary conditions, Eq. 2.1
Date: Sat, 9 Jul 2016 01:31:32 +0300
Message-ID:
<CAM7Ekx=khjWx0pwmc_OOKek3sHGc4uNBHxKnCoznt52yUw50Vw@mail.gmail.com>
From: Dimi Chakalov <dchakalov@gmail.com>
To: Arturo Avelino <aavelino@cfa.harvard.edu>, Robert Kirshner <rkirshner@cfa.harvard.edu>
Cc: Eric Linder <evlinder@lbl.gov>, mmcleod@learner.org, Rosalba Perna <rosalba.perna@stonybrook.edu>

Arturo and Robert:

- > the standard theory of cosmology is singular at $a=0$, so the
- > understanding of the Universe at that point is a challenge for the whole
- > theory.

It is a crucial problem, so I suggested *the* only possible solution. Pity you didn't even glance at it.

> By avoiding $a=0$ we ensure that we are accounting for part of the
> cosmic evolution where the current laws of physics are valid.

You didn't even look at the solution, which goes deep into general topology, set theory, and number theory. It is one click away, but you both did not even read it. You did not ask any questions either.

Mathematically, the clopen interval in your arXiv:1607.00002v1 [astro-ph.CO] below can be introduced iff you're dealing with identifiable individual objects, say, you have a bag (closed system!) of three apples, and you examine only the **closed** interval of two apples [2,3], saying that the first apple at time "zero" can be "avoided": (1,2,3]. Then you say that the total number of apples is growing, and refer to the so-called scale factor.

Do you see your problem? If you do, check out the links below.

Dimi

--

D. Chakalov
chakalov.net

> On Mon, Jul 4, 2016 at 10:41 AM, Dimi Chakalov <dchakalov@gmail.com> wrote:

>>

>> P.S. In the conformal recipe by Penrose, there is a tacit clopen
>> interval $[A; \omega)$, where A denotes the expanding "size" of spacetime
>> toward null infinity. You must install GW mirrors for the physical
>> spacetime **exactly** at $[\omega]$, jointly with GW mirrors at spacelike
>> infinity. Forget it.

>>

>> Notice the clopen interval for the cosmological time on p. 2 and
>> footnote 1, $a = (0; 1]$, in arXiv:1607.00002v1 [astro-ph.CO] by Arturo
>> Avelino and Robert Kirshner. To quote José M.M. Senovilla, Singularity
>> Theorems in General Relativity: Achievements and Open Questions,
>> arXiv:physics/0605007v1, p. 6: "This is some kind of boundary, or
>> margin, which is not part of the space-time but that, somehow, it is
>> accessible from within it. Thus the necessity of a rigorous definition
>> of the boundary of a space-time."

>>

>> Only the "boundary" of spacetime is not physical: see Fig. 7, p. 8 in
>> 'The Spacetime' at <http://chakalov.net> .

>>

>> You don't need any "mirrors" for GWs: see the school of fish analogy
>> from May 24, 2016 at

>> <http://www.god-does-not-play-dice.net/gravity.pdf>

>>

>> D.C.

>>

>> On Mon, 4 Jul 2016 13:16:29 +0300, Dimi Chakalov <dchakalov@gmail.com>
>> wrote:

NOTE

To understand the "boundary" of spacetime, check out Fig. 7 and Fig. 22 in
'The Spacetime' at chakalov.net .

To understand why we need such "boundary" and the dual age of spacetime, look at the definition of limit by Michael Spivak, <http://www.god-does-not-play-dice.net/Spivak.jpg>

... and replace apple 2 in my latest email above with 'a', and apple 1 with 'l': what is the meaning of "l near a" ? Only Donald Trump could answer this question, simply because the expression "l near a" makes no sense whatsoever.

D. Chakalov
July 10, 2016

=====

Subject: Robert J. Low, The Space of Null Geodesics (and a New Causal Boundary), Ch. 6

Date: Mon, 27 Jun 2016 15:22:47 +0000

Message-ID: <CAM7EkxkwQCyYKLEy84yknYU_KkTA0sRoSdfk-js84rZ7+ape0A@mail.gmail.com>

From: Dimi Chakalov <dchakalov@gmail.com>

To: Robert J Low <mtx014@coventry.ac.uk>, Laszlo Szabados <lbszab@rmki.kfki.hu>, Piotr T Chrusciel <piotr.chrusciel@univie.ac.at>, Jörg Frauendiener <joergf@maths.otago.ac.nz>, Adam Helfer <helfera@missouri.edu>, Greg Galloway <galloway@math.miami.edu>, John Baez <baez@math.ucr.edu>, Paul Tod <tod@maths.ox.ac.uk>, Domenico Giulini <giulini@itp.uni-hannover.de>, Jose Geraldo Pereira <jpereira@ift.unesp.br>, Robert Geroch <geroch@midway.uchicago.edu>, Chris Isham <c.isham@imperial.ac.uk>, Charles Torre <charles.torre@usu.edu>, Anthony Lasenby <a.n.lasenby@mrao.cam.ac.uk>, Karel V Kuchar <kuchar@physics.utah.edu>, Demetrios Christodoulou <demetri@math.ethz.ch>, George Ellis <gfrellis@gmail.com>, Gian Michele Graf <gian-michele.graf@itp.phys.ethz.ch>, Helmut Friedrich <hef@aei.mpg.de>, John Stachel <john.stachel@gmail.com>, Ettore Minguzzi <ettore.minguzzi@unifi.it>, Robert M Wald <rmwa@midway.uchicago.edu>, Lars Andersson <laan@aei.mpg.de>, Ezra Newman <newman@pitt.edu>, Christian Pfeifer <christian.pfeifer@itp.uni-hannover.de>, Sascha Husa <sascha.husa@uib.es>, Alan Rendall <rendall@uni-mainz.de>, Kip <kip@tapir.caltech.edu>, Saul Teukolsky <saul@astro.cornell.edu>, Niall Murchadha <niall@ucc.ie>, Norbert Straumann <norbert.straumann@gmail.com>, Bernard Schutz <Bernard.Schutz@aei.mpg.de>, Bruce Allen <bruce.allen@aei.mpg.de>, Ericourgoulhon <eric.gourgoulhon@obspm.fr>,

David B Malament <dmalamen@uci.edu>,
Erik Curiel <erik@strangebeautiful.com>,
Xiao Zhang <xzhang@amss.ac.cn>,
Mu-Tao Wang <mtwang@math.columbia.edu>,
Christian Wuthrich <beyondspacetimeseminar@gmail.com>,
Zhaoyan Wu <zhaoyanwu2000@yahoo.com>,
R Penrose <penroad@wadh.ox.ac.uk>

Dear Dr. Low,

May I ask you to help me understand how null geodesics would focus on a common future endpoint.

Suppose you "find all null geodesics which focus at the same point at infinity, and treat this set of null geodesics as the light cone of the (common) future endpoint of these null geodesics": how will you solve the problems at

http://www.god-does-not-play-dice.net/Penrose_omega_zero.jpg ?

And secondly, how will you install mirrors for GWs *exactly* at null-and-spacelike infinity? Check out

GW150914: Are Cows Spherical?

<http://www.god-does-not-play-dice.net/GW150914.pdf>

(June 26, 2016, 352,383 bytes, 7 pages)

I extend these questions to all your colleagues.

More at my website below.

Yours sincerely,

Dimi Chakalov

chakalov.net

NOTE

May I add two facts about causality:

Nuclear submarines collide in Atlantic. Damaged British and French vessels return to base after crash deep below ocean's surface.

By Rachel Williams and Richard Norton-Taylor, The Guardian, 16 February 2009,

<https://www.theguardian.com/uk/2009/feb/16/nuclear-submarines-collide>

Another facts is the "probability" for biological structures: we don't like anthropic parapsychology, do we?

D. Chakalov
June 27, 2016

=====

Subject: GW150914: Are Cows Spherical?

Date: Tue, 5 Jul 2016 07:07:18 +0300

Message-ID:

<CAM7EkxnQZEGtuCriu42wGt71xxL70osco264KBfKP4hgBE1TKQ@mail.gmail.com>

From: Dimi Chakalov <dchakalov@gmail.com>

To: Takashi Nakamura <takashi@tap.scphys.kyoto-u.ac.jp>,
Hiroyuki Nakano <hinakano@yukawa.kyoto-u.ac.jp>,
Tomoya Kinugawa <kinugawa@tap.scphys.kyoto-u.ac.jp>,
Tetsuya Shiromizu <shiromizu@math.nagoya-u.ac.jp>,
Tatsuya Matsumoto <matsumoto@tap.scphys.kyoto-u.ac.jp>,
Avneet <avneet.singh@aei.mpg.de>,
Maria Alessandra Papa <maria.alessandra.papa@aei.mpg.de>,
Heinz-Bernd Eggenstein <heinz-bernd.eggenstein@aei.mpg.de>

arXiv:1607.00897v1 [astro-ph.HE]: "Pre-DECIGO can observe NS-NS and NS-BH mergers. However no detection of GWs from the merger of these systems has been done, though many simulations exist."

arXiv:1607.00745v1 [gr-qc]: "This search did not yield any evidence of continuous gravitational waves in the LIGO 5th Science Run data..."

Get the facts:

<http://www.god-does-not-play-dice.net/GW150914.pdf>

Details at my website below.

D. Chakalov

chakalov.net

=====

Subject: Re: GW150914 is a FRAUD.

Date: Wed, 22 Jun 2016 12:41:50 +0000

Message-ID: <CAM7EkxkzZsq+FL+nxZjZCRr0dkfxN7SGJBRSin-X5QHnbPq3QQ@mail.gmail.com>

From: Dimi Chakalov <dchakalov@gmail.com>

To: C. Y. Lo <chungy.lo@gmail.com>

Cc: Rainer Weiss <weiss@ligo.mit.edu>,
Alan Weinstein <ajw@ligo.caltech.edu>,
Ronald J Adler <gyroron@gmail.com>,
Ron Drever <rdrever@caltech.edu>,
Kip <kip@tapir.caltech.edu>,
Bruce Allen <bruce.allen@aei.mpg.de>,
Gabriela González <gonzalez@lsu.edu>,
David Shoemaker <dhs@mit.edu>,
Alessandra <alessandra.buonanno@aei.mpg.de>,
David Garfinkle <garfinkl@oakland.edu>,
Matt Visser <matt.visser@msor.vuw.ac.nz>

> The scientific ability of Thorne is well-known to be questionable.

Kip is fully predictable and is not interesting.

There's much more. Check out the facts in GW150914.pdf:

<http://www.god-does-not-play-dice.net/GW150914.pdf>

(June 22, 2016, 221,354 bytes, 5 pages)

D. Chakalov
chakalov.net

=====

Subject: Re: GW150914 is a FRAUD.
Date: Fri, 1 Jul 2016 16:42:09 +0300
Message-ID: <CAM7Ekx=86aHipEznpp5AbQMz-1yGaUcoi-tq_u5ewvj4bj809A@mail.gmail.com>
From: Dimi Chakalov <dchakalov@gmail.com>
To: Remo <ruffini@icra.it>,
C Y Lo <chungy.lo@gmail.com>,
David Shoemaker <dhs@mit.edu>,
Stan Whitcomb <stan.whitcomb@ligo.org>,
Ron Drever <rdrever@caltech.edu>,
Kip <kip@tapir.caltech.edu>,
Rainer Weiss <weiss@ligo.mit.edu>,
Emanuele <berti@wugrav.wustl.edu>,
Clifford Will <cmw@wuphys.wustl.edu>,
William G Unruh <unruh@physics.ubc.ca>,
David B Malament <dmalamen@uci.edu>,
Richard Price <rprice.physics@gmail.com>,
Stefano Vitale <vitale@science.unitn.it>,
Bernard Schutz <Bernard.Schutz@aei.mpg.de>,
Gabriela González <gonzalez@lsu.edu>,
Deirdre Shoemaker <deirdre.shoemaker@physics.gatech.edu>,
sukanta.bose@ligo.org, peter.fritschel@ligo.org,
albert.lazzarini@ligo.org, martin.mchugh@ligo.org,
tania.regimbau@ligo.org, john.whelan@ligo.org,
bernard.whiting@ligo.org, comergl@slu.edu,
David Reitze <reitze@ligo.caltech.edu>,
David Garfinkle <garfinkl@oakland.edu>,
Nikolaos Mavromatos <nikolaos.mavromatos@kcl.ac.uk>,
Dimitri <dimitri@physics.tamu.edu>,
Antonio Padilla <antonio.padilla@nottingham.ac.uk>,
Jose Rodriguez <jose.rodriguez2@correo.uis.edu.co>,
Jorge Rueda <jorge.rueda@icra.it>,
Nigel <n.bishop@ru.ac.za>,
Luciano <rezzolla@itp.uni-frankfurt.de>,
Jeffrey Winicour <winicour@pitt.edu>,
Michele Maggiore <michele.maggiore@unige.ch>,
Daniel Kennefick <danielk@uark.edu>,
Saul <saul@astro.cornell.edu>,
Alessandra <alessandra.buonanno@aei.mpg.de>,
Josh Goldberg <goldberg@phy.syr.edu>,
John Stachel <john.stachel@gmail.com>,
Rosalba Perna <rosalba.perna@stonybrook.edu>,
Abraham Loeb <aloeb@cfa.harvard.edu>,
Valerie Connaughton <valerie@nasa.gov>,
Gary Horowitz <gary@physics.ucsb.edu>,

Steven Weinberg <weinberg@physics.utexas.edu>,
abbott_b@ligo.caltech.edu,
anderson_s@ligo.caltech.edu,
barish_b@ligo.caltech.edu,
sarah.gossan@tapir.caltech.edu,
gustafson_e@ligo.caltech.edu,
JulieHiroto LIGO <jhiroto@ligo.caltech.edu>,
Kenneth Libbrecht <kgl@caltech.edu>,
Bob Taylor <taylor_r@ligo.caltech.edu>,
yamamoto_h@ligo.caltech.edu,
zweizig_j@ligo.caltech.edu,
swang5@caltech.edu,
zhang_l@ligo.caltech.edu,
Mike <zucker_m@ligo.mit.edu>,
Joan Centrella <joan.centrella@nasa.gov>,
Jose Geraldo Pereira <jpereira@ift.unesp.br>,
Marco <marco.drago@aei.mpg.de>,
Adrian Cho <acho@aaas.org>,
Mark Hannam <markodh@gmail.com>,
Pedro Marronetti <pmarrone@nsf.gov>,
Lee Samuel Finn <lsfinn@psu.edu>,
Beverly Berger <grgsocietymail@gmail.com>,
César García Marirrodriga <Cesar.Garcia@esa.int>,
Paul McNamara <paul.mcnamara@esa.int>,
Ian Harrison <ian.harrison@esa.int>,
Damien Texier <contactesa@esa.int>,
Charles Dunn <Charles.E.Dunn@jpl.nasa.gov>,
Gustav <g.holzegel@imperial.ac.uk>,
George Ellis <gfrellis@gmail.com>,
Jean-Pierre Bourguignon <jpb@ihes.fr>,
Bruce Allen <bruce.allen@aei.mpg.de>,
Chris Isham <c.isham@imperial.ac.uk>,
Karel V Kuchar <kuchar@physics.utah.edu>,
Stanley Deser <deser@brandeis.edu>,
Charles Torre <charles.torre@usu.edu>,
Robert M Wald <rmwa@midway.uchicago.edu>,
Robert Geroch <geroch@midway.uchicago.edu>

P.S. Remo Ruffini and co-authors mentioned in arXiv:1605.07609v1, p. 6,
"the perspective that GW 150914 is not of astrophysical nature",
<http://www.god-does-not-play-dice.net/Ruffini.jpg>

Will you bet that GW 150914 was a Biblical "miracle" or a plain fraud?

The great tragedy of GW astronomy is the slaying of an ugly (but highly
lucrative) hypothesis by indisputable facts: check out GW150914.pdf,

<http://www.god-does-not-play-dice.net/GW150914.pdf>
(July 1, 2016, 389,300 bytes, 7 pages)

Details at my website below.

D. Chakalov
chakalov.net

On Fri, 17 Jun 2016 05:12:21 +0300, Dimi Chakalov <dchakalov@gmail.com> wrote:
>

> Ladies and Gentlemen:
>
> You have severe problem: GW150914 is a FRAUD.
>
> How could it happen? See p. 15 in
> http://www.god-does-not-play-dice.net/gwa_rip.pdf
>
[snip]

=====

Subject: GW150914 is a FRAUD.
Date: Fri, 17 Jun 2016 05:12:21 +0300
Message-ID:
<CAM7EkxmopOWqrOYoiJeJAmi=w9oxadybZHb9HNNainrj7SQa8A@mail.gmail.com>
From: Dimi Chakalov <dchakalov@gmail.com>
To: David Shoemaker <dhs@mit.edu>,
Stan Whitcomb <stan.whitcomb@ligo.org>,
Ron Drever <rdrever@caltech.edu>,
Kip <kip@tapir.caltech.edu>,
Rainer Weiss <weiss@ligo.mit.edu>,
Emanuele <berti@wugrav.wustl.edu>,
Clifford Will <cmw@wuphys.wustl.edu>,
William G Unruh <unruh@physics.ubc.ca>,
David B Malament <dmalamen@uci.edu>,
Richard Price <rprice.physics@gmail.com>,
Stefano Vitale <vitale@science.unitn.it>,
Bernard Schutz <Bernard.Schutz@aei.mpg.de>,
Gabriela González <gonzalez@lsu.edu>,
Deirdre Shoemaker <deirdre.shoemaker@physics.gatech.edu>,
sukanta.bose@ligo.org,
peter.fritschel@ligo.org,
albert.lazzarini@ligo.org,
martin.mchugh@ligo.org,
tania.regimbau@ligo.org,
john.whelan@ligo.org,
bernard.whiting@ligo.org,
David Reitze <reitze@ligo.caltech.edu>,
comergl@slu.edu,
David Garfinkle <garfinkl@oakland.edu>,
Nikolaos Mavromatos <nikolaos.mavromatos@kcl.ac.uk>,
dimitri@physics.tamu.edu,
Antonio Padilla <antonio.padilla@nottingham.ac.uk>,
Remo <ruffini@icra.it>,
Jose Rodriguez <jose.rodriguez2@correo.uis.edu.co>,
Jorge Rueda <jorge.rueda@icra.it>,
Nigel <n.bishop@ru.ac.za>,
Luciano <rezzolla@itp.uni-frankfurt.de>,
Jeffrey Winicour <winicour@pitt.edu>,
Michele Maggiore <michele.maggiore@unige.ch>,
Daniel Kennefick <danielk@uark.edu>,
Saul <saul@astro.cornell.edu>,
Alessandra <alessandra.buonanno@aei.mpg.de>,
Josh Goldberg <goldberg@phy.syr.edu>,
John Stachel <john.stachel@gmail.com>,

Rosalba Perna <rosalba.perna@stonybrook.edu>,
Abraham Loeb <aloeb@cfa.harvard.edu>,
Valerie Connaughton <valerie@nasa.gov>,
Gary Horowitz <gary@physics.ucsb.edu>,
Steven Weinberg <weinberg@physics.utexas.edu>,
abbott_b@ligo.caltech.edu,
anderson_s@ligo.caltech.edu,
barish_b@ligo.caltech.edu,
sarah.gossan@tapir.caltech.edu,
gustafson_e@ligo.caltech.edu,
JulieHiroto LIGO <jhiroto@ligo.caltech.edu>,
Kenneth Libbrecht <kgl@caltech.edu>,
Bob Taylor <taylor_r@ligo.caltech.edu>,
yamamoto_h@ligo.caltech.edu,
zweizig_j@ligo.caltech.edu,
swang5@caltech.edu,
zhang_l@ligo.caltech.edu,
Mike <zucker_m@ligo.mit.edu>,
Joan Centrella <joan.centrella@nasa.gov>,
Jose Geraldo Pereira <jpereira@ift.unesp.br>,
Marco <marco.drago@aei.mpg.de>,
Adrian Cho <acho@aaas.org>,
Mark Hannam <markodh@googlemail.com>,
Pedro Marronetti <pmarrone@nsf.gov>,
Lee Samuel Finn <lsfinn@psu.edu>,
Beverly Berger <grgsocietymail@gmail.com>,
César García Marirrodriga <Cesar.Garcia@esa.int>,
Paul McNamara <paul.mcnamara@esa.int>,
Ian Harrison <ian.harrison@esa.int>,
Damien Texier <contactesa@esa.int>,
Charles Dunn <Charles.E.Dunn@jpl.nasa.gov>,
Gustav <g.holzegele@imperial.ac.uk>,
George Ellis <gfrellis@gmail.com>,
Jean-Pierre Bourguignon <jpb@ihes.fr>,
Bruce Allen <bruce.allen@aei.mpg.de>,
Chris Isham <c.isham@imperial.ac.uk>,
Karel V Kuchar <kuchar@physics.utah.edu>,
Stanley Deser <deser@brandeis.edu>,
Charles Torre <charles.torre@usu.edu>,
Robert M Wald <rmwa@midway.uchicago.edu>,
Robert Geroch <geroch@midway.uchicago.edu>

Ladies and Gentlemen:

You have severe problem: GW150914 is a FRAUD.

How could it happen? See p. **15** in
http://www.god-does-not-play-dice.net/gwa_rip.pdf

You need only one fact: the *prototype* of GW150914 at the immediate vicinity of the alleged binary black hole merger at a galaxy located more than one billion light years from Earth.

This *prototype* of GW150914 did NOT interact with matter and fields for more than one billion years, in order to carry its GW pattern, until it got veeeery weak and was called GW150914. If the *prototype* had interacted with matter and fields, it MUST have changed and you could have never "discovered" GWs and binary BHH merger. Thus, it did

NOT interact with anything whatsoever, until it reached LIGO.

Ergo, GW150914 was produced by a ghost. If you don't believe in ghosts, GW150914 was a FRAUD: see p. 15 the link above.

Perhaps only Kip Thorne could have manufactured such "perfect" GW150914: "a *vacuum* BBH merger does not produce any EM or particle emission whatsoever." (LIGO & VIGRO, arXiv:1602.08492v2, p. 9.) Only massive "gravitons" producing "the most powerful explosion humans have ever detected except for the big bang" (Kip Thorne; reference at my website below).

What a pathetic nonsense. Worst of all, you can say nothing, because you have to praise Emperor's new clothes. Are they also made of massive "gravitons", in line with your groundbreaking theory of quantum gravity?

What a pity you cannot respond...

D. Chakalov
chakalov.net

NOTE

The prolegomenon to GW150914 is the grin of the Cheshire cat without the cat, as observed by Alice (Lewis Carroll, Alice's Adventures in Wonderland, 1865, Ch. 6),

http://disney.wikia.com/wiki/Cheshire_Cat

In GW "astronomy", the grin is made of "gravitons" only, because the Cheshire cat is ... "vacuum". You have only "shape dynamics" in Ricci-flat manifolds:

https://en.wikipedia.org/wiki/Ricci-flat_manifold

"For example, in a Ricci-flat manifold, a circle in Euclidean space may be deformed into an ellipse with equal area. This is due to Weyl curvature."

https://en.wikipedia.org/wiki/Weyl_tensor

"In general relativity, the Weyl curvature is the only part of the curvature that exists in free space -- a solution of the vacuum Einstein equation -- and it governs the propagation of gravitational radiation through regions of space devoid of matter (Sic! - D.C.)."

Hence "a vacuum BBH merger does not produce any EM or particle emission whatsoever." (LIGO & VIGRO, arXiv:1602.08492v2, p. 9).

Only "gravitons", ensuing from the mathematical fact that, due to Weyl curvature, a circle in Euclidean space may be deformed into an ellipse with equal area (see above), which produced "the most powerful explosion humans have ever detected except for the big bang" (Kip Thorne, see gwa_rip.pdf at the link in my initial email from June 17, 2016 above).

Thus, GW150914 proved, once and for all, that the Universe lives in GR vacuum: you can never see the Cheshire cat itself. Only its grin made of "gravitons".

To get your Nobel Prize, all you have to do is to derive "gravitons" from "shape dynamics" in Ricci-flat manifolds. With lots of math, of course.

Well, I am not GW poet and don't indulge in stretch 'n squeeze parapsychology:

https://en.wikipedia.org/wiki/File:Quadrupol_Wave.gif

Let's get serious. The non-linear GWs do carry energy, momentum, and angular momentum, but they do not have "polarization pattern" (see the .gif above) that would cause the GW detector to "expand" in one direction and at the same time to "contract" in the perpendicular direction, as speculated by Kip Thorne and collaborators:

http://www.god-does-not-play-dice.net/kip_slide_5.jpg

Surely we can use the linearized approximation of GR for adjusting the GPS Navigation System, but there is no way, not even in principle, to record the *dynamics* of energy transfer by GWs within a finite spacetime region, measured with a clock pertaining to the same spacetime region: check out Angelo Loinger,

On Gravitational Motions,
<http://arxiv.org/abs/0804.3991v1>

On the displacements of Einsteinian fields et cetera,
<http://arxiv.org/abs/physics/0506024v2>

In Kip Thorne's theory, his watch reads the time parameter of the two "fields' evolutions $h_+(t)$ & $h_x(t)$ " without a hitch, keeping track on the background, undisturbed Minkowski space as well, like uneven or "disturbed" layer of butter spread over a fixed toast. Needless to say, the butter is made of "gravitons".

In Thorne's theory above, you have Cartesian coordinate system, which defines *exact* angles for the two wave strain components, h_+ and h_x . These angles must be kept intact in the *prototype* of GW150914, defined in very strong GWs and for over one billion years. Otherwise you cannot have any "polarization pattern", because the two wave strains will conflate and intermingle. Therefore, GW150914 was caused by some GW ghost: see my email from 17 June 2016 above.

The LIGO-eLISA theory (see Kip Thorne above) *requires* the assumption of so-called weak-field limit. To quote from Matt Visser (Mass for the graviton, arXiv:gr-qc/9705051v2): "To precisely specify the weak-field limit we will have to pick a particular background geometry for our non-dynamical metric. The most sensible choice for almost all astrophysical applications is to take g_0 to correspond to a flat space-time (Minkowski space)." And from Daniele Fargion and Pietro Oliva (LIGO-VIRGO GWs events: blurred or sharp astronomy? arXiv:1603.09639v2): "A LIGO GW connection to GRB? From above there are many reasons to foresee a fast e.m. transient associated to these LIGO-VIRGO astronomy. However as we have mentioned the BH BH merging in vacuum is a source only (or mostly) of silent EM GWs with no EM tail."

But with the so-called weak-field limit it is impossible to even imagine "gravitational waves emitted by realistic astrophysical sources", as acknowledged by Michelle Maggiore:

http://www.god-does-not-play-dice.net/Maggiore_p32.jpg

Therefore, LIGO & VIRGO "experts" have no clue whatsoever about the *prototype* of GW150914, nor about the "mass" (if any) of "gravitons" (if any). More from: Freeman Dyson, Is A Graviton Detectable? IAMP News Bulletin, January 2014, pp. 8-21,

<http://www.iamp.org/bulletins/old-bulletins/201401.pdf>

In Bondi's theory (Paper VII, p. 23 and Sec. 5, pp. 43-47), GWs do not have any "polarization pattern". Check out a general discussion in

Sir Hermann Bondi, Gravitational waves in general relativity, Current Contents 30, 16 (23 July 1990),
<http://www.garfield.library.upenn.edu/classics1990/A1990DN22600001.pdf>

The "news" of gravitational radiation (cf. Fig. 1, p. 3 in [gwa_rip.pdf](#) at the link above) cannot be detected with LIGO, VIRGO, GEO, TAMA, KAGRA, IndIGO (LIGO-India), TianQin, eLISA, Einstein Telescope, and the like:

<http://www.god-does-not-play-dice.net/Jose.jpg>
<http://www.god-does-not-play-dice.net/Schutz.pdf>
<http://www.god-does-not-play-dice.net/Ruffini.jpg>
<http://www.god-does-not-play-dice.net/excerpt.jpg>

We all, GW poets included, know that vacuum spacetime with $T^{ab} = 0$ is highly exaggerated approximation, like the famous 'spherical cow',

https://en.wikipedia.org/wiki/Spherical_cow

If you are a cowboy and wish only to count the number of cows in your herd, you may of course think of them as 'spherical objects'. But imagine the following situation: as you walk in your grassland, you see that the grass on a loan has been hardly pressed to the ground, as if some heavy object has passed through your grassland.

Would you say that some brand new and very heavy spherical cows have rolled over the grass? That will be just like GW150914. Again, the 'spherical cow' vacuum cannot do work on matter (no "pseudotensors"). It is not legitimate approximation, like, say, the Schrödinger equation.

The situation can be illustrated with the quiz below:

Q: What is green, lives underground, has one eye, and eats stones?

A: The One-Eyed Green Underground Stone Eating Monster!

Get real. Stones do not disappear. Cows are not spherical. Gravitons do not exist -- you cannot define the energy density of the vacuum with any "gravitons":

http://www.god-does-not-play-dice.net/the_worst.jpg

LISA Pathfinder -- it wasted over 400 million EUR of taxpayers' money -- will not detect any hint of GW by the end of its mission in September 2016. The "evolved" LISA (eLISA) will fail to detect any GW either.

Why? Because non-linear GWs do not have any "polarization pattern". To understand spin-0 gravitational radiation, see the 'school of fish' analogy from 24 May 2016 below -- the GW detector must have the faculty of self-acting, like the [human brain](#).

To sum up, the two fake results from GW150914 are rotted on (i) the weak-field limit (see Hermann Weyl, ref. [3] in gwa_rip.pdf) and (ii) the vacuum solution in GR. The proponents of GW astronomy know nothing about the actual astrophysical sources of GWs (M. Maggiore), such as the *prototype* of GW150914 at the vicinity of some binary black hole (BBH) merger, and they "derived" their "weak-field" approximation by sheer imagination and wishful thinking, which made the *prototype* of GW150914 some GW ghost or Biblical "miracle", whichever comes first.

We do not accept GW parapsychology. The second fake result is encoded in the title of this note: the Universe does not live in GR vacuum. The alleged "explanation" of GW150914 that "a vacuum BBH merger does not produce any EM or particle emission whatsoever" (LIGO & VIGRO, arXiv:1602.08492v3, p. 9) requires that the Universe actually lives in GR vacuum, contrary to Lambda-CDM cosmology. This is their third absurd "discovery": cows are not spherical. If they insist on their 'spherical cow' discovery of "gravitons", their first off task is to explain the energy density of the vacuum (see above).

When will LIGO discover GWs from binary neutron stars (NSs) or mixed BH/NS system, with unavoidable GRBs? Or "primordial" GWs with (dimensionless) amplitude proportional to the energy scale of inflation?

When pigs fly.

D. Chakalov

June 17, 2016

Last updated: July 1, 2016, 389,300 bytes, GW150914.pdf, 7 pages.

<http://www.god-does-not-play-dice.net/GW150914.pdf>

Addendum

Two slides from Caltech's Physics 237-2002 by Kip Thorne,

http://www.god-does-not-play-dice.net/kip_slide_5.jpg

To quote from Wikipedia,

https://en.wikipedia.org/wiki/Kip_Thorne#Gravitational_waves_and_LIGO

"Thorne's work has dealt with the prediction of gravitational wave strengths and their temporal signatures as observed on Earth. These "signatures" are of great relevance to LIGO (Laser Interferometer Gravitational Wave Observatory). (...) A significant aspect of his research is developing the mathematics necessary to analyze these objects.[7]" Which makes Kip Thorne one of the main suspects for manufacturing the fake "signature" dubbed GW150914: see p. **15** in gwa_rip.pdf at

http://www.god-does-not-play-dice.net/gwa_rip.pdf

D. Chakalov

June 24, 2016

=====

Subject: The 800-pound gorilla in the room
Date: Sun, 5 Jun 2016 14:01:30 +0300
Message-ID:
<CAM7EkxnWv+v0QUE+RfRq4jddqwCPsQiakpNfxKiHvWHbnqwBDpQ@mail.gmail.com>
From: Dimi Chakalov <dchakalov@gmail.com>
To: Zhao-Yan Wu <zhaoyanwu2000@yahoo.com>
Cc: Paul Steinhardt <steinh@princeton.edu>,
Xiao Zhang <xzhang@amss.ac.cn>,
Laszlo Szabados <lbszab@rmki.kfki.hu>,
George Ellis <gfrellis@gmail.com>,
Adam Helfer <helfera@missouri.edu>,
Karel V Kuchar <kuchar@physics.utah.edu>,
Chris Isham <c.isham@imperial.ac.uk>,
Hans Ohanian <hohanian@uvm.edu>,
James M Nester <nester@phy.ncu.edu.tw>,
Sean Hayward <sean_a_hayward@yahoo.co.uk>,
Jörg Frauendiener <joergf@maths.otago.ac.nz>,
Merced Montesinos Velásquez <merced@fis.cinvestav.mx>,
Yuan K Ha <yuanha@temple.edu>,
Norbert Straumann <norbert.straumann@gmail.com>,
William G Unruh <unruh@physics.ubc.ca>,
Robert Geroch <geroch@midway.uchicago.edu>,
Robert M Wald <rmwa@midway.uchicago.edu>

Dear Dr. Wu:

Thank you for your paper 'Gravitational Energy-Momentum and Conservation of Energy-Momentum in General Relativity', Commun. Theor. Phys. 65 (2016) 716-730.

> Everyone's comments are appreciated.

May I offer my comments.

In my email to you from Wed, 27 Jan 2016 12:18:15 +0200, I suggested to watch Paul Steinhardt,
<https://www.youtube.com/watch?v=tjmNW3mlisE>

Q: How can we handle perpetual and unlimited influx of positive matter density, the '800-pound gorilla in the room' ?

We may not use tensors:
<http://www.god-does-not-play-dice.net/excerpt.jpg>

Why not? Because tensors belong to classical physics, and in classical physics we inevitably have to use bivalent logic: a classical object either 'is' or 'is not'. **Tertium non datur.**

You say "gravity, the oldest natural force known to people, is not really a natural force". I suggest to replace "natural" with 'classical'.

You say "there is no spring or sink for matter energy-momentum anywhere in spacetime". Yes, there is a 'spring-and-sink', but it is

not 'classical reality' and therefore we may not use tensors. We need quantum gravity to explain the quasi-local (not quantum) gravitational "field",

http://www.god-does-not-play-dice.net/Szabados_p31.jpg

That is, at every 4-D instant/event, the quasi-local 'spring-and-sink' is *already* eliminated -- once-at-a-time -- because the bi-directional negotiation between the two sides in Einstein's field equations is *already* completed,

<http://www.god-does-not-play-dice.net/Esher.jpg>

See Eq. 23 in

<http://www.god-does-not-play-dice.net/Montesinos.jpg>

More at my website. I will be happy to elaborate.

Sincerely,

Dimi Chakalov
chakalov.net

NOTE

Check out the 'school of fish' analogy from 24 May 2016 [below](#): there are no "quantum jumps" in the quantum world nor "gravitons".

You may, of course, say 'Nah, I don't want any new physics, give me some widely known and indisputable mathematical facts.' Fine.

Check out Jose G. Pereira, 'Gravitational waves: a foundational review', arXiv:1305.0777v3 [gr-qc], 27 May 2015, Sec. 2, 'The meaning of being linear': "This is the reason why an electromagnetic wave is unable to transport its own source, that is, electric charge, a result consistent with the source conservation law (5)." See also Sec. 4.1 on p. 8,

<http://www.god-does-not-play-dice.net/Jose.jpg>

Unlike EM waves, GWs must be inherently NON-linear in order to transport their own *source* placed in the right-hand side of Einstein's field equations. This source is needed to exchange energy with the GW detector and induce stresses, which *requires* energy non-conservation:

http://www.god-does-not-play-dice.net/non_conservation.jpg

Surely non-linear GWs carry energy, momentum, and angular momentum, but they do NOT have spin-2 "polarization pattern" that would cause the GW detector to "expand" in one direction and at the same time to "contract" in the perpendicular direction, as speculated by Kip Thorne,

http://www.god-does-not-play-dice.net/kip_slide_5.jpg

If the condition "each polarization has its own gravitational-wave field" (see Kip Thorne at the link above) is valid for the *prototype* of GW150914 at the *immediate vicinity* of the alleged binary black hole merger at a galaxy located more than one billion light years from Earth, it will be a Biblical "miracle" that

this prototype of GW150914 was not disturbed in any way, shape, or form during its transport lasting more than one billion years, until it reached LIGO on Earth, producing GW150914. That is, the experts at LIGO and VIRGO have to assume that the *prototype* of GW150914 can only act on matter and fields, but will never be acted upon by matter and fields, for more than one billion years. Namely, a gravitational ghost which breaks the basic rule of GR: "spacetime tells matter how to move; matter tells spacetime how to curve."

https://en.wikipedia.org/wiki/General_relativity#Definition_and_basic_properties

Do you believe in ghosts? If you don't, check out refs [1] and [2] on p. 4 in

<http://www.god-does-not-play-dice.net/Schutz.pdf>

Moreover, the experts at LIGO and VIRGO will need a second "miracle" to produce the *prototype* of GW150914 from immensely strong gravitational fields at the immediate vicinity of some binary black hole merger, because "it would be hopeless to look for exact solutions for the gravitational waves emitted by realistic astrophysical sources", as acknowledged by Michelle Maggiore:

http://www.god-does-not-play-dice.net/Maggiore_p32.jpg

GW150914 is a FRAUD. Why? Because "miracles" don't happen.

LISA Pathfinder -- it wasted **over 400 million** EUR of taxpayers' money -- will not detect any GW150914-like pattern by the end of its mission in September 2016.

Why not? See above.

Don't ever say that you knew nothing about it.

More at

<http://www.god-does-not-play-dice.net/excerpt.jpg>

D. Chakalov

June 7, 2016

Last updated: June 8, 2016, 11:11 GMT

=====

Subject: Re: The 800-pound gorilla in the room

Date: Wed, 8 Jun 2016 14:35:48 +0300

Message-ID:

<CAM7Ekxk5wbaeF+ixQ6c00q0Gi9uMLqWaK6ghPvkRPdLZR_i__A@mail.gmail.com>

From: Dimi Chakalov <dchakalov@gmail.com>

To: Zhao-Yan Wu <zhaoyanwu2000@yahoo.com>,

William G Unruh <unruh@physics.ubc.ca>,

Kip <kip@tapir.caltech.edu>,

Saul <saul@astro.cornell.edu>,

Alessandra <alessandra.buonanno@aei.mpg.de>,

m.duez@wsu.edu,

Lawrence Kidder <kidder@astro.cornell.edu>,

glovelace@exchange.fullerton.edu,

cott@tapir.caltech.edu,

Rob Owen <rowen@oberlin.edu>,

Harald Pfeiffer <pfeiffer@cita.utoronto.ca>,
Mark Scheel <scheel@tapir.caltech.edu>,
andy@andybohn.com,
Stewart Shapiro <shapiro.4@osu.edu>,
lsc-spokesperson@ligo.org,
virgo-spokesperson@ego-gw.eu,
Lvc Publications <lvc.publications@ligo.org>,
R Penrose <penroad@wadh.ox.ac.uk>,
Valerie Connaughton <valerie@nasa.gov>,
Deirdre Shoemaker <dshoemaker3@gatech.edu>,
Janna Levin <jlevin@barnard.edu>,
Pablo Laguna <plaguna3@gatech.edu>,
Karan Jani <kjani3@gatech.edu>,
James Healy <jchsma@rit.edu>,
Lionel London <llondon6@gatech.edu>,
Vova <volodya@caltech.edu>,
Paul Klinger <paul.klinger@univie.ac.at>,
Daniel Roberts <drob@mit.edu>,
Daniele Malafarina <daniele.malafarina@nu.edu.kz>,
Francesco Maione <francesco.maione@fis.unipr.it>,
Mustapha Ishak <mishak@utdallas.edu>,
Weipeng Lin <linwp@shao.ac.cn>,
Juntai Shen <jshen@shao.ac.cn>,
Feng Yuan <fyuan@shao.ac.cn>,
Adam Helfer <helfera@missouri.edu>,
Laszlo Szabados <lbszab@rmki.kfki.hu>,
Jörg Frauendiener <joergf@maths.otago.ac.nz>,
Jose M M Senovilla <josemm.senovilla@ehu.es>,
Etera Livine <etera.livine@ens-lyon.fr>,
Carlos Kozameh <kozameh@famaf.unc.edu.ar>,
Luca Bombelli <luca@phy.olemiss.edu>,
Luca Fabbri <luca.fabbri@bo.infn.it>,
Ettore Minguzzi <ettore.minguzzi@unifi.it>,
Chiang-Mei Chen <cmchen@phy.ncu.edu.tw>,
Lars Andersson <laan@aei.mpg.de>,
Hermann Nicolai <nicolai@aei.mpg.de>,
Eugenio Bianchi <exb34@psu.edu>,
Carlo <rovelli.carlo@gmail.com>,
Yuan K Ha <yuanha@temple.edu>,
Joe Polchinski <joep@itp.ucsb.edu>,
Robert Jaffe <jaffe@mit.edu>,
Gerard Hooft 't <g.thoof@phys.uu.nl>,
Lau Loi So <s0242010@gmail.com>,
Josh Goldberg <goldberg@phy.syr.edu>,
John Stachel <john.stachel@gmail.com>,
Manlio De Domenico <manlio.dedomenico@urv.cat>,
Vincenzo Branchina <vincenzo.branchina@ct.infn.it>,
Rod Diehl <rod@mpe.mpg.de>,
Rob Preece <rob.preece@nasa.gov>,
Jochen Greiner <jcg@mpe.mpg.de>,
narayana.bhat@nasa.gov,
michael.briggs@nasa.gov,
michael burgess <jmichaelburgess@gmail.com>,
EricKayserBurns@gmail.com,
William.Cleveland@nasa.gov,
stephen.e.elrod@nasa.gov,
jerry.fishman@nasa.gov,
gerard.fitzpatrick@ucdconnect.ie,
lisa.gibby@nasa.gov,

misty.m.giles@nasa.gov,
adam.m.goldstein@nasa.gov,
c.m.hui@nasa.gov,
peter.a.jenke@nasa.gov,
azk@mpe.mpg.de,
mkippen@lanl.gov,
ckouveliotou@gwu.edu,
bagrat.mailyan@uah.edu,
sheila.mcbreen@ucd.ie,
charles.a.meegan@nasa.gov,
bill.paciesas@nasa.gov,
vero.pelassa@gmail.com,
arau@mpe.mpg.de,
Oliver Roberts <oliver.roberts@ucd.ie>,
Matthew Stanbro <mcs0001@uah.edu>,
david.tierney@ucd.ie,
pv0004@uah.edu,
colleen.wilson@nasa.gov,
gyounes@email.gwu.edu,
Binbin Zhang <bz0006@uah.edu>,
Remo <ruffini@icra.it>,
Jose Rodriguez <jose.rodriquez2@correo.uis.edu.co>,
Jorge Rueda <jorge.rueda@icra.it>,
Shuang Nan Zhang <zhangsn@ihep.ac.cn>,
Yanbei Chen <yanbei@caltech.edu>,
David Garfinkle <garfinkl@oakland.edu>,
Gaurav Goswami <gaurav.goswami@ahduni.edu.in>,
Gianluca Calcagni <calcagni@iem.cfmac.csic.es>,
John Klauder <klauder@phys.ufl.edu>,
Don Page <profdonpage@gmail.com>,
Rosalba Perna <rosalba.perna@stonybrook.edu>,
Abraham Loeb <aloeb@cfa.harvard.edu>,
Paul Steinhardt <steinh@princeton.edu>,
Davide Lazzati <lazzatid@science.oregonstate.edu>,
Bruno Giacomazzo <bruno.giacomazzo@unitn.it>,
Carla Cederbaum <cederbaum@math.uni-tuebingen.de>,
Klaus Sibold <klaus.sibold@itp.uni-leipzig.de>,
Gerhard Huisken <gerhard.huisken@uni-tuebingen.de>,
Christopher Nerz <christopher.nerz@math.uni-tuebingen.de>,
Greg Galloway <galloway@math.miami.edu>,
Hans Ringström <hansr@kth.se>,
Stefan Hollands <stefan.hollands@itp.uni-leipzig.de>,
Phil <contact@philippefloch.org>,
Pietro Oliva <pietro.oliva@unicusano.it>,
Richard M Schoen <schoen@math.stanford.edu>,
Sergiu Klainerman <seri@math.princeton.edu>,
Piotr T Chrusciel <piotr.chrusciel@univie.ac.at>,
Robert M Wald <rmwa@midway.uchicago.edu>,
Gustav <g.holzegel@imperial.ac.uk>,
George Ellis <gfrellis@gmail.com>,
Jean-Pierre Bourguignon <jpb@ihes.fr>,
Bruce Allen <bruce.allen@aei.mpg.de>,
Ericourgoulhon <eric.gourgoulhon@obspm.fr>,
Tomohiro Nakama <tomohiro.nakama@gmail.com>,
Gabriela González <gonzalez@lsu.edu>,
Karel V Kuchar <kuchar@physics.utah.edu>,
Richard Price <rprice.physics@gmail.com>,
Ronald J Adler <gyroron@gmail.com>,
Xiao Zhang <xzhang@amss.ac.cn>,

Chris Isham <c.isham@imperial.ac.uk>,
Gian Michele Graf <gian-michele.graf@itp.phys.ethz.ch>,
Emanuele <berti@wugrav.wustl.edu>,
Jean-Pierre Derendinger <derendinger@itp.unibe.ch>,
Mu-Tao Wang <mtwang@math.columbia.edu>,
PoNing Chen <pnchen@math.columbia.edu>,
Paul Tod <tod@maths.ox.ac.uk>,
Ezra Newman <newman@pitt.edu>,
Wei-Tou Ni <weitou@gmail.com>,
Sascha Husa <sascha.husa@gmail.com>,
David B Malament <dmalamen@uci.edu>,
Alessandra Buonanno <buonanno@physics.umd.edu>,
Bernd Brügmann <b.bruegmann@tpi.uni-jena.de>,
Bernard Schutz <Bernard.Schutz@aei.mpg.de>,
Oliver Jennrich <oliver.jennrich@esa.int>,
James Ira Thorpe <james.i.thorpe@nasa.gov>,
Rainer Weiss <weiss@ligo.mit.edu>,
Alan Weinstein <ajw@ligo.caltech.edu>,
Luciano <rezzolla@th.physik.uni-frankfurt.de>,
Gary Horowitz <gary@physics.ucsb.edu>,
Steven Weinberg <weinberg@physics.utexas.edu>,
abbott_b@ligo.caltech.edu,
anderson_s@ligo.caltech.edu,
barish_b@ligo.caltech.edu,
sarah.gossan@tapir.caltech.edu,
gustafson_e@ligo.caltech.edu,
JulieHiroto LIGO <jhiroto@ligo.caltech.edu>,
Kenneth Libbrecht <kgl@caltech.edu>,
Bob Taylor <taylor_r@ligo.caltech.edu>,
yamamoto_h@ligo.caltech.edu,
zweizig_j@ligo.caltech.edu,
swang5@caltech.edu,
zhang_l@ligo.caltech.edu,
Mike <zucker_m@ligo.mit.edu>,
David Reitze <reitze@ligo.caltech.edu>,
Karsten <karsten.danzmann@aei.mpg.de>,
Clifford Will <cmw@wuphys.wustl.edu>,
Joan Centrella <joan.centrella@nasa.gov>,
Jose Geraldo Pereira <jpereira@ift.unesp.br>,
Marco <marco.drago@aei.mpg.de>,
Adrian Cho <acho@aaas.org>,
Mark Hannam <markodh@googlemail.com>,
Pedro Marronetti <pmarrone@nsf.gov>,
Lee Samuel Finn <lsfinn@psu.edu>,
Beverly Berger <grgsocietymail@gmail.com>,
César García Marirrodriga <Cesar.Garcia@esa.int>,
Paul McNamara <paul.mcnamara@esa.int>,
Ian Harrison <ian.harrison@esa.int>,
Damien Texier <contactesa@esa.int>,
Charles Dunn <Charles.E.Dunn@jpl.nasa.gov>,
Philippe Jetzer <jetzer@physik.uzh.ch>,
Eric Plagnol <eric.plagnol@apc.univ-paris7.fr>,
Martijn Smit <m.j.smit@uu.nl>,
Carlos Sopena <sopena@ieec.uab.es>,
Benjamin Knispel <benjamin.knispel@aei.mpg.de>,
Martin Hewitson <hewitson@aei.mpg.de>,
Hans Ohanian <hohanian@uvm.edu>,
James M Nester <nester@phy.ncu.edu.tw>,
Sean Hayward <sean_a_hayward@yahoo.co.uk>,

Merced Montesinos Velásquez <merced@fis.cinvestav.mx>

P.S. See an excerpt (gravity.jpg attached) from
<http://www.god-does-not-play-dice.net/gravity.pdf>

D.C.

On Sun, Jun 5, 2016 at 2:01 PM, Dimi Chakalov <dchakalov@gmail.com> wrote:

>
> Dear Dr. Wu:
>
> Thank you for your paper 'Gravitational Energy-Momentum and
> Conservation of Energy-Momentum in General Relativity', Commun. Theor.
> Phys. 65 (2016) 716-730.
>
>> Everyone's comments are appreciated.
>
> May I offer my comments.
>
> In my email to you from Wed, 27 Jan 2016 12:18:15 +0200, I suggested
> to watch Paul Steinhardt,
> <https://www.youtube.com/watch?v=tjmNW3mlisE>
>
> Q: How can we handle perpetual and unlimited influx of positive matter
> density, the '800-pound gorilla in the room' ?
>
> We may not use tensors:
> <http://www.god-does-not-play-dice.net/excerpt.jpg>
>
> Why not? Because tensors belong to classical physics, and in classical
> physics we inevitably have to use bivalent logic: a classical object
> either 'is' or 'is not'. Tertium non datur.
>
> You say "gravity, the oldest natural force known to people, is not
> really a natural force". I suggest to replace "natural" with
> 'classical'.
>
> You say "there is no spring or sink for matter energy-momentum
> anywhere in spacetime". Yes, there is a 'spring-and-sink', but it is
> not 'classical reality' and therefore we may not use tensors. We need
> quantum gravity to explain the quasi-local (not quantum) gravitational
> "field",
>
> http://www.god-does-not-play-dice.net/Szabados_p31.jpg
>
> That is, at every 4-D instant/event, the quasi-local 'spring-and-sink'
> is **already** eliminated -- once-at-a-time -- because the
> bi-directional negotiation between the two sides in Einstein's field
> equations is **already** completed,
>
> <http://www.god-does-not-play-dice.net/Esher.jpg>
>
> See Eq. 23 in
> <http://www.god-does-not-play-dice.net/Montesinos.jpg>
>
> More at my website. I will be happy to elaborate.
>

> Sincerely,
>
> Dimi Chakalov
> chakalov.net
>

Attachment:

<http://www.god-does-not-play-dice.net/gravity.jpg>

=====

Subject: Re: Rosalba Perna et al., Short Gamma-Ray Bursts from the Merger of
Two Black Holes, arXiv:1602.05140v2 [astro-ph.HE]

Date: Wed, 18 May 2016 11:10:25 +0000

Message-ID:

<CAM7EkxnDLU+90TusTyZFVhXyeydbw_Ei4BGDAGMXwJ6yOJPzMg@mail.gmail.com>

From: Dimi Chakalov <dchakalov@gmail.com>

To: Rosalba Perna <rosalba.perna@stonybrook.edu>,
Abraham Loeb <aloeb@cfa.harvard.edu>,
Valerie Connaughton <valerie@nasa.gov>,
Paul Steinhardt <steinh@princeton.edu>,
Davide Lazzati <lazzatid@science.oregonstate.edu>,
Bruno Giacomazzo <bruno.giacomazzo@unitn.it>,
Shuang Nan Zhang <zhangsn@ihep.ac.cn>,
Remo <ruffini@icra.it>,
Carla Cederbaum <cederbaum@math.uni-tuebingen.de>,
Klaus Sibold <klaus.sibold@itp.uni-leipzig.de>,
Gerhard Huisken <gerhard.huisken@uni-tuebingen.de>,
Christopher Nerz <christopher.nerz@math.uni-tuebingen.de>,
Greg Galloway <galloway@math.miami.edu>,
Hans Ringström <hansr@kth.se>,
Stefan Hollands <stefan.hollands@itp.uni-leipzig.de>,
Phil <contact@philippelefloch.org>,
Pietro Oliva <pietro.oliva@unicusano.it>,
Richard M Schoen <schoen@math.stanford.edu>,
Sergiu Klainerman <seri@math.princeton.edu>,
Piotr T Chrusciel <piotr.chrusciel@univie.ac.at>,
Robert M Wald <rmwa@midway.uchicago.edu>,
Gustav <g.holzegel@imperial.ac.uk>,
George Ellis <gfrellis@gmail.com>,
Jean-Pierre Bourguignon <jpb@ihes.fr>,
Kip <kip@tapir.caltech.edu>,
Bruce Allen <bruce.allen@aei.mpg.de>,
Eric Gourgoulhon <eric.gourgoulhon@obspm.fr>,
Jorge Rueda <jorge.rueda@icra.it>,
Jose Rodriguez <jose.rodriguez2@correo.uis.edu.co>,
Yanbei Chen <yanbei@caltech.edu>,
Tomohiro Nakama <tomohiro.nakama@gmail.com>,
David Garfinkle <garfinkl@oakland.edu>,
Manlio De Domenico <manlio.dedomenico@urv.cat>,
Vincenzo Branchina <vincenzo.branchina@ct.infn.it>,
Rod Diehl <rod@mpe.mpg.de>,
Jochen Greiner <jcg@mpe.mpg.de>,
Gabriela González <gonzalez@lsu.edu>,
Karel V Kuchar <kuchar@physics.utah.edu>,

Josh Goldberg <goldberg@phy.syr.edu>,
Richard Price <rprice.physics@gmail.com>,
Ronald J Adler <gyroron@gmail.com>,
Xiao Zhang <xzhang@amss.ac.cn>,
Zhaoyan Wu <zhaoyanwu2000@yahoo.com>

Ciao Rosalba,

Thanks for your prompt reply.

> I will read those references.

Please let me know what you were unable to understand - it will be *entirely* my fault.

> My PhD thesis is on Gamma-Ray Bursts.

Sorry, I was misled by one of your former students,
<http://www.ratemyprofessors.com/ShowRatings.jsp?tid=1178303>

May I suggest the best candidate, in the framework of my theory, for the engine of GRBs: watch Paul Steinhardt at
<https://www.youtube.com/watch?v=tjmNW3mlisE>

Back to GW150914:
<http://www.god-does-not-play-dice.net/Ruffini.jpg>

Since you know Avi Loeb, I trust you know his efforts in arXiv:1602.04735v2 to find GRB counterparts to The One-Eyed Green Underground Stone Eating Monster (see my initial email below). As he explained recently (March 30, 2016), "if the star is spinning very rapidly to start with, then as its core collapses it produces a bar that breaks into two clumps of matter, sort of like a dumbbell configuration. And these two clumps of matter orbit a common center, and they eventually collapse independently into two black holes."

Other people are hoping to "identify electromagnetic counterparts to any candidate GW events in the GBM data" (Valerie Connaughton et al., arXiv:1602.03920v3).

Trouble is, once you say "black hole", you're left *only* with Weyl tensor, which means that "the most powerful explosion humans have ever detected except for the big bang" (Kip Thorne) could be produced and manifested only and exclusively only by Weyl curvature that "governs the propagation of gravitational radiation through regions of space devoid of matter", without "any EM or particle emission whatsoever" (links and references at my website below).

Q: What can you cook with the Weyl tensor? Gravitons? Pasta? Or pasta with gravitons?

My explanation of GW150914 is much simpler, as you may have noticed. I don't care about GW "astronomy", because it is total crap spiced with wishful thinking: read Bernie Schutz in

<http://www.god-does-not-play-dice.net/Schutz.pdf>

The actual issue here is the access to the engine of GRBs (see above).

If I am on the right track, one day we could have unlimited clean energy, plus *much* more. This could be a multi-billion euro business, and I am very serious about it. More info on pp. 34-36 in 'The Spacetime' (cf. my website).

I will be happy to hear from you and your colleagues. Please don't hesitate.

Best regards,

Dimi

--

D. Chakalov
chakalov.net

>> On Wed, May 18, 2016 at 3:23 AM, Dimi Chakalov <dchakalov@gmail.com> wrote:
>>>
>>> Dear Rosalba,
>>>
>>> You, Davide, and Bruno challenged the old mantra that GRBs cannot be
>>> produced by a binary BH merger -- only by the merger of (i) binary
>>> neutron stars (NSs) or (ii) mixed BH/NS system. Which is why many
>>> (otherwise smart) people believe that "a vacuum BBH merger does not
>>> produce any EM or particle emission whatsoever." (LIGO & VIGRO,
>>> arXiv:1602.08492v2, p. 9.)
>>>
>>> All this reminds me of a quiz I learned from my daughter:
>>>
>>> Q: What is green, lives underground, has one eye, and eats stones?
>>> A: The One-Eyed Green Underground Stone Eating Monster!
>>>
>>> Check out the facts in
>>> <http://www.god-does-not-play-dice.net/excerpt.jpg>
>>> <http://www.god-does-not-play-dice.net/Ruffini.jpg>
>>>
>>> Details in 'Gravitational Wave Astronomy: RIP' at
>>> http://www.god-does-not-play-dice.net/gwa_rip.pdf
>>>
>>> More at my website below.
>>>
>>> All the best,
>>>
>>> Dimi Chakalov
>>> chakalov.net
>>>
>>>

=====
Subject: Re: [arXiv:1511.00602v2](https://arxiv.org/abs/1511.00602v2)
Date: Tue, 24 May 2016 14:22:51 +0300
Message-ID:
<CAM7Ekx=ka1sTArc3OwUpm6eWOric28PzNyUXuCJXYx4fhXMTJg@mail.gmail.com>

From: Dimi Chakalov <dchakalov@gmail.com>
To: Thierry Gobron <gobron@ptm.u-cergy.fr>
Cc: nicolas.pavloff@u-psud.fr,
Yuan K Ha <yuanha@temple.edu>,
Rosalba Perna <rosalba.perna@stonybrook.edu>,
Chris Isham <c.isham@imperial.ac.uk>,
Karel V Kuchar <kuchar@physics.utah.edu>

Dear Thierry,

Check out again Escher's drawing hands,
<http://www.god-does-not-play-dice.net/Escher.jpg>

Regarding gravity, some (otherwise smart) people believe that one of the hands is made of "gravitons" interacting with matter (GW150914) along the time read with your clock (linearized gravity). In this linearized time, the Escher's drawing hands (see above) will inevitably lead to dead frozen dynamical "evolution", like in the famous Buridan donkey paradox:

https://en.wikipedia.org/wiki/Buridan's_ass
<http://www.god-does-not-play-dice.net/donkey.jpg>

To be specific, at t_0 every fish (arXiv:1511.00602v2) has to wait for the determination of its next state at a later time t_1 by the entire school of fish, but at the same t_0 the entire school of fish has to wait for the determination of its next state at a later time t_1 by each and every individual fish. Hence their Hamiltonian will be dead frozen, just as in Wheeler-DeWitt equation. No fish can proceed to its next state at t_1 *before* the latter is being fixed, and none of Escher's drawing hands can move either: reductio ad absurdum.

Did you manage to read my email? If you did, 60+ trillion synapses in your brain have proven the non-linear quantum-gravitational "time". That's a large school of fish (arXiv:1511.00602v2), isn't it?

More in
http://www.god-does-not-play-dice.net/Fig_8_small.jpg

Best - D.

On Mon, 23 May 2016 14:01:17 +0300, Dimi Chakalov <dchakalov@gmail.com> wrote:

>
> Dear Thierry,
>
> I wonder how you would model bi-directional negotiations (see Escher's
> drawing hands attached) in imaginary "time", if only their end results
> -- one-at-a-time, as read with your wristwatch -- are physical, in
> line with Born rule. Hope Nick can help.
>
> All the best,
>
> Dimi
> --
> D. Chakalov
> chakalov.net
>

NOTE

The analogy with the Buridan donkey paradox is not appropriate, I'm afraid.

To model the quantum behavior of a [school of fish](#), suppose every fish follows the rule 'think globally, act locally', such that every point from the trajectories of each and every fish is pre-correlated (pre-established harmony) with 'the rest of fish' from the school. The EPR-like [correlations](#) "take place" in a putative 'global mode of spacetime', and the dynamics of every fish becomes *quasi-local*, in the sense that the bi-directional negotiation (see Escher's drawing hands above) for the *next* state at every point from the trajectories of all fish is being *already-completed* (**Sic!**) at the instant t_0 , hence every fish can make the *infinitesimal* displacement $x \rightarrow x + ds$ at t_1 , leading to perfectly continual trajectory: there are no "quantum jumps" in the quantum world nor "gravitons". Dead matter makes quantum jumps; the living-and-quantum-gravitational matter is smarter.

You may replace the [fish](#) with dice. Think of four dice, which have to be EPR-like correlated "in the air" (global mode of spacetime), in such a way that the sum of their readings must be confined in the interval $[10, 20]$ at the instant they are fixed/dropped on the table -- see Fig_8_small.jpg above. You can see only the dice on the table, where they exist as 'facts' (local mode of spacetime).

So, suppose you observe consecutive sets of readings like (3, 5, 1, 6), (4, 4, 3, 5), (5, 6, 2, 5), (1, 3, 5, 1), etc., all of which are [correlated](#) by the requirement $[10, 20]$. The trajectories of all dice are composed of these quasi-local states 'on the table', and all dice will be pre-correlated like a school of fish. They will be already-bootstrapped 'on the table', and will display wave-like dynamics, without any localized source of such quantum-gravitational "wave": the "source" is the entire school of fish/dice:

http://www.god-does-not-play-dice.net/Szabados_p31.jpg

GW150914 is a FRAUD. Don't ever say that you knew nothing about it.

D. Chakalov
May 24, 2016

=====

Subject: Yuri Bonder, Torsion or not torsion, that is the question,
arXiv:1604.00067v3 [gr-qc], p. 2.
Date: Wed, 3 Aug 2016 12:44:52 +0300
Message-ID:
<CAM7EkxmB0OJ8MU+hdEL225PHFWkFnOW0S4r1SvZR0q5TpT7SMA@mail.gmail.com>
From: Dimi Chakalov <dchakalov@gmail.com>
To: Yuri Bonder <bonder@nucleares.unam.mx>, Yuri Bonder
<yuri.bonder@nucleares.unam.mx>
Cc: Laszlo Szabados <lbszab@rmki.kfki.hu>,
Friedrich W Hehl <hehl@thp.uni-koeln.de>,
Luca Fabbri <luca.fabbri@bo.infn.it>

<http://arxiv.org/abs/1604.00067v3>

Dear Dr. Bonder,

You said that "torsion does not propagate" (p. 2). May I ask you to clarify your hypothesis about nonvanishing spacetime torsion by suggesting an explanation of the nonlocal torsionless GR (cf. attached).

The opinions of your colleagues will be greatly appreciated, too.

Kind regards,

Dimi Chakalov
chakalov.net

Attachment:

http://www.god-does-not-play-dice.net/Szabados_p31.jpg

NOTE

We need torsion as *topological* property of spacetime to explain 'rotation': watch 00:54 - 01:16 from the timeline at

<https://vimeo.com/177382153>

or

<http://www.god-does-not-play-dice.net/WhatIsDarkMatter.mp4>

The observational fact explained above is known since 1970s, thanks to Vera Rubin. There is no physical "rotor" to swing a galaxy, and the gravitational "field" (see the excerpt from Laszlo Szabados above, Szabados_p31.jpg) certainly could not twirl a galaxy like spinning a CD ROM: watch again 00:54 - 01:16 at the link above.

Going back to the analogy with a school of fish from 24 May 2016 [above](#), notice that the entire spacetime (=school of fish) *inserts* an additional spin/rotation on every quasi-local fish (=galaxy), hence all fish necessarily *rotate en bloc*. How? By following the rule 'think globaly, act locally':

http://www.god-does-not-play-dice.net/self_energy.jpg

Locally, every quasi-local fish follows *perfectly local* worldline, because the torsion from the 'shool of fish' is being *totally* eliminated locally -- once-at-a-time, as read with your wristwatch.

The difference from quantum spin is obvious: see Hans C. Ohanian, What is spin? Am. J. Phys. 54 (1986) 500-505,

http://www.god-does-not-play-dice.net/spin_unphysical.jpg

In observational cosmology, we do observe the axis of rotation: check out Wen Zhao and Larissa Santos, Preferred axis in cosmology, arXiv:1604.05484v2 [astro-ph.CO], p. 16,

<http://arxiv.org/abs/1604.05484v2>

Briefly, we have a fundamental puzzle here, and the only way to solve it is by suggesting two *modes* of spacetime: global mode for 'the entire school of fish', and local mode for every quasi-local fish, be it an electron or a galaxy. There ain't no "black holes".

As to Professor Dr. Yuri Bonder, he rejected my email from Wed, 3 Aug 2016 above. I tried to be utterly polite (not frank) with him, but perhaps he needed something quite different,

<http://www.god-does-not-play-dice.net/russian.html>

Let's see if any of his distinguished colleagues will reply, or will continue to keep dead quiet, like Professor Dr. Sir Roger Penrose FRS, etc. (see my email from 25 May 2016 below).

D. Chakalov
August 3, 2016

=====

Subject: Continuity and differentiability (R. Penrose, arXiv:1205.5823v1, 25 May 2012)
Date: Wed, 25 May 2016 16:43:45 +0300
Message-ID: <CAM7Ekxn=MBJNc2-2-hYDR9ZsVEpJV_EcCpTzKxptsBLrhQMGYA@mail.gmail.com>
From: Dimi Chakalov <dchakalov@gmail.com>
To: R Penrose <penroad@wadh.ox.ac.uk>, Roger Penrose <rouse@maths.ox.ac.uk>
Cc: hitchin@maths.ox.ac.uk, bryant@math.duke.edu, m.dunajski@damtp.cam.ac.uk, andrew@synth.co.uk, candelas@maths.ox.ac.uk, david.conlon@wadh.ox.ac.uk, graham.ross@physics.ox.ac.uk

My dear Sir Roger,

Four years ago, you briefly mentioned in arXiv:1205.5823v1 the ideas of "continuity and differentiability - which go hand-in-hand with the pervasive use of the real-number system".

Up to this day, you stubbornly refuse to acknowledge the basic facts about continuity and differentiability, although I personally gave you the references (we met at Imperial College on Tuesday, 16 April 2002) and explained them in my email messages sent to you since 1997.

Forget about "spin networks", Roger. You are not even wrong.

You need Mathematics -- check out my website.

D. Chakalov
chakalov.net

--

Truth never triumphs -- its opponents just die out.
Max Planck

=====

Subject: Re: Schizophrenic behavior of gravity ?
Date: Sun, 5 Jun 2016 02:48:43 +0300
Message-ID: <CAM7Ekxmq_b=0YzBPeVYK23RFhb8rZwY8-mA9Owb5eXhVWGOX0w@mail.gmail.com>
From: Dimi Chakalov <dchakalov@gmail.com>
To: Laszlo Szabados <lbszab@rmki.kfki.hu>,
Piotr T Chrusciel <piotr.chrusciel@univie.ac.at>,
Jörg Frauendiener <joergf@maths.otago.ac.nz>,
Adam Helfer <helfera@missouri.edu>,
Greg Galloway <galloway@math.miami.edu>,
John Baez <baez@math.ucr.edu>,
Paul Tod <tod@maths.ox.ac.uk>,
Domenico Giulini <giulini@itp.uni-hannover.de>,
Jose Geraldo Pereira <jpereira@ift.unesp.br>,
Robert Geroch <geroch@midway.uchicago.edu>,
Chris Isham <c.isham@imperial.ac.uk>,
Charles Torre <charles.torre@usu.edu>,
Anthony Lasenby <a.n.lasenby@mrao.cam.ac.uk>,
Karel V Kuchar <kuchar@physics.utah.edu>,
Demetrios Christodoulou <demetri@math.ethz.ch>,
George Ellis <gfrellis@gmail.com>,
Gian Michele Graf <gian-michele.graf@itp.phys.ethz.ch>,
Helmut Friedrich <hef@aei.mpg.de>,
John Stachel <john.stachel@gmail.com>,
Ettore Minguzzi <ettore.minguzzi@unifi.it>,
Robert M Wald <rmwa@midway.uchicago.edu>,
Lars Andersson <laan@aei.mpg.de>,
Ezra Newman <newman@pitt.edu>,
Christian Pfeifer <christian.pfeifer@itp.uni-hannover.de>,
Sascha Husa <sascha.husa@uib.es>,
Alan Rendall <rendall@uni-mainz.de>,
Kip <kip@tapir.caltech.edu>,
Saul Teukolsky <saul@astro.cornell.edu>,
Niall Murchadha <niall@ucc.ie>,
Norbert Straumann <norbert.straumann@gmail.com>,
Bernard Schutz <Bernard.Schutz@aei.mpg.de>,
Bruce Allen <bruce.allen@aei.mpg.de>,
Roger Penrose <penroad@wadh.ox.ac.uk>

P.S. Once you answer the question at the link below, please explain how you would install "mirrors" for GWs exactly at null infinity and at spacelike infinity:

<http://www.god-does-not-play-dice.net/Schutz.pdf>

Let's do our job, science ...

D.C.

On Sat, 4 Jun 2016 16:37:00 +0300, Dimi Chakalov <dchakalov@gmail.com> wrote:
>
> On Sat, 28 Mar 2009 02:49:13 +0100 (CET), Szabados, L. <lbszab@rmki.kfki.hu>
> wrote:

>>
>> Let's do our job, science ...
>
> Check out a simple question at
> http://www.god-does-not-play-dice.net/Penrose_omega_zero.jpg
>
> [Please respond professionally.](#)
>
> I extend this request to all your colleagues.
>
> D. Chakalov
> chakalov.net

=====

Subject: Toroidal Pink Unicorns in Binary Red Herring Mergers,
arXiv:1606.00436v1 [gr-qc]
Date: Fri, 3 Jun 2016 15:35:17 +0300
Message-ID: <CAM7EkxnoPWSzABr0Rf400Cr9Kn-tAg5Pq-hiFrvR_xs6AsErjQ@mail.gmail.com>
From: Dimi Chakalov <dchakalov@gmail.com>
To: Kip <kip@tapir.caltech.edu>,
Saul <saul@astro.cornell.edu>,
Alessandra <alessandra.buonanno@aei.mpg.de>,
m.duez@wsu.edu,
Lawrence Kidder <kidder@astro.cornell.edu>,
glovelace@exchange.fullerton.edu,
cott@tapir.caltech.edu,
rowen@oberlin.edu,
Harald Pfeiffer <pfeiffer@cita.utoronto.ca>,
Mark Scheel <scheel@tapir.caltech.edu>,
andy@andybohn.com
Cc: Stewart Shapiro <shapiro.4@osu.edu>,
lsc-spokesperson@ligo.org,
virgo-spokesperson@ego-gw.eu,
Lvc Publications <lvc.publications@ligo.org>,
R Penrose <penroad@wadh.ox.ac.uk>,
Valerie Connaughton <valerie@nasa.gov>,
Deirdre Shoemaker <dshoemaker3@gatech.edu>,
Janna Levin <jlevin@barnard.edu>,
Pablo Laguna <plaguna3@gatech.edu>,
Karan Jani <kjani3@gatech.edu>,
James Healy <jchsma@rit.edu>,
Lionel London <llondon6@gatech.edu>,
Vova <volodya@caltech.edu>,
Paul Klinger <paul.klinger@univie.ac.at>,
Daniel Roberts <drob@mit.edu>,
Daniele Malafarina <daniele.malafarina@nu.edu.kz>,
Francesco Maione <francesco.maione@fis.unipr.it>,
Mustapha Ishak <mishak@utdallas.edu>,
Weipeng Lin <linwp@shao.ac.cn>,
Juntai Shen <jshen@shao.ac.cn>,
Feng Yuan <fyuan@shao.ac.cn>,
Adam Helfer <helfera@missouri.edu>,
Laszlo Szabados <lbszab@rmki.kfki.hu>,
Jörg Frauendiener <joergf@maths.otago.ac.nz>,

Jose M M Senovilla <josemm.senovilla@ehu.es>,
Etera Livine <etera.livine@ens-lyon.fr>,
Carlos Kozameh <kozameh@famaf.unc.edu.ar>,
Luca Bombelli <luca@phy.olemiss.edu>,
Luca Fabbri <luca.fabbri@bo.infn.it>,
Ettore Minguzzi <ettore.minguzzi@unifi.it>,
Chiang-Mei Chen <cmchen@phy.ncu.edu.tw>,
Lars Andersson <laan@aei.mpg.de>,
Hermann Nicolai <nicolai@aei.mpg.de>,
Eugenio Bianchi <exb34@psu.edu>,
Carlo <rovelli.carlo@gmail.com>,
Yuan K Ha <yuanha@temple.edu>,
Joe Polchinski <joep@itp.ucsb.edu>,
Robert Jaffe <jaffe@mit.edu>,
Gerard Hooft 't <g.thoofth@phys.uu.nl>,
Lau Loi So <s0242010@gmail.com>,
Josh Goldberg <goldberg@phy.syr.edu>,
John Stachel <john.stachel@gmail.com>,
Manlio De Domenico <manlio.dedomenico@urv.cat>,
Vincenzo Branchina <vincenzo.branchina@ct.infn.it>,
Rod Diehl <rod@mpe.mpg.de>,
Rob Preece <rob.preece@nasa.gov>,
Jochen Greiner <jcg@mpe.mpg.de>,
narayana.bhat@nasa.gov,
michael.briggs@nasa.gov,
michael burgess <jmichaelburgess@gmail.com>,
EricKayserBurns@gmail.com,
William.Cleveland@nasa.gov,
stephen.e.elrod@nasa.gov,
jerry.fishman@nasa.gov,
gerard.fitzpatrick@ucdconnect.ie,
lisa.gibby@nasa.gov,
misty.m.giles@nasa.gov,
adam.m.goldstein@nasa.gov,
c.m.hui@nasa.gov,
peter.a.jenke@nasa.gov,
azk@mpe.mpg.de,
mkippen@lanl.gov,
ckouveliotou@gwu.edu,
bagrat.mailyan@uah.edu,
sheila.mcbreen@ucd.ie,
charles.a.meegan@nasa.gov,
bill.paciesas@nasa.gov,
vero.pelassa@gmail.com,
arau@mpe.mpg.de,
Oliver Roberts <oliver.roberts@ucd.ie>,
Matthew Stanbro <mcs0001@uah.edu>,
david.tierney@ucd.ie,
pv0004@uah.edu,
colleen.wilson@nasa.gov,
gyounes@email.gwu.edu,
Binbin Zhang <bz0006@uah.edu>,
Remo <ruffini@icra.it>,
Jose Rodriguez <jose.rodriguez2@correo.uis.edu.co>,
Jorge Rueda <jorge.rueda@icra.it>,
Shuang Nan Zhang <zhangsn@ihp.ac.cn>,
Yanbei Chen <yanbei@caltech.edu>,
David Garfinkle <garfinkl@oakland.edu>,
Gaurav Goswami <gaurav.goswami@ahduni.edu.in>,

Gianluca Calcagni <calcagni@iem.cfmac.csic.es>,
John Klauder <klauder@phys.ufl.edu>,
Don Page <profdonpage@gmail.com>,
Rosalba Perna <rosalba.perna@stonybrook.edu>,
Abraham Loeb <aloeb@cfa.harvard.edu>,
Paul Steinhardt <steinh@princeton.edu>,
Davide Lazzati <lazzatid@science.oregonstate.edu>,
Bruno Giacomazzo <bruno.giacomazzo@unitn.it>,
Carla Cederbaum <cederbaum@math.uni-tuebingen.de>,
Klaus Sibold <klaus.sibold@itp.uni-leipzig.de>,
Gerhard Huisken <gerhard.huisken@uni-tuebingen.de>,
Christopher Nerz <christopher.nerz@math.uni-tuebingen.de>,
Greg Galloway <galloway@math.miami.edu>,
Hans Ringström <hansr@kth.se>,
Stefan Hollands <stefan.hollands@itp.uni-leipzig.de>,
Phil <contact@philippelefloch.org>,
Pietro Oliva <pietro.oliva@unicusano.it>,
Richard M Schoen <schoen@math.stanford.edu>,
Sergiu Klainerman <seri@math.princeton.edu>,
Piotr T Chrusciel <piotr.chrusciel@univie.ac.at>,
Robert M Wald <rmwa@midway.uchicago.edu>,
Gustav <g.holzegel@imperial.ac.uk>,
George Ellis <gfrellis@gmail.com>,
Jean-Pierre Bourguignon <jpb@ihes.fr>,
Bruce Allen <bruce.allen@aei.mpg.de>,
Eric Gourgoulhon <eric.gourgoulhon@obspm.fr>,
Tomohiro Nakama <tomohiro.nakama@gmail.com>,
Gabriela González <gonzalez@lsu.edu>,
Karel V Kuchar <kuchar@physics.utah.edu>,
Richard Price <rprice.physics@gmail.com>,
Ronald J Adler <gyroron@gmail.com>,
Xiao Zhang <xzhang@amss.ac.cn>,
Zhaoyan Wu <zhaoyanwu2000@yahoo.com>,
Chris Isham <c.isham@imperial.ac.uk>,
Gian Michele Graf <gian-michele.graf@itp.phys.ethz.ch>,
Emanuele <berti@wugrav.wustl.edu>,
Jean-Pierre Derendinger <derendinger@itp.unibe.ch>,
Mu-Tao Wang <mtwang@math.columbia.edu>,
PoNing Chen <pnchen@math.columbia.edu>,
Paul Tod <tod@maths.ox.ac.uk>,
Ezra Newman <newman@pitt.edu>,
Wei-Tou Ni <weitou@gmail.com>,
Sascha Husa <sascha.husa@gmail.com>,
David B Malament <dmalamen@uci.edu>,
Alessandra Buonanno <buonanno@physics.umd.edu>,
Bernd Brügmann <b.bruegmann@tpi.uni-jena.de>,
Bernard Schutz <Bernard.Schutz@aei.mpg.de>,
Oliver Jennrich <oliver.jennrich@esa.int>,
James Ira Thorpe <james.i.thorpe@nasa.gov>,
Rainer Weiss <weiss@ligo.mit.edu>,
Alan Weinstein <ajw@ligo.caltech.edu>,
Luciano <rezzolla@th.physik.uni-frankfurt.de>,
Gary Horowitz <gary@physics.ucsb.edu>,
Steven Weinberg <weinberg@physics.utexas.edu>,
abbott_b@ligo.caltech.edu,
anderson_s@ligo.caltech.edu,
barish_b@ligo.caltech.edu,
sarah.gossan@tapir.caltech.edu,
gustafson_e@ligo.caltech.edu,

JulieHiroto LIGO <jhiroto@ligo.caltech.edu>,
Kenneth Libbrecht <kgl@caltech.edu>,
Bob Taylor <taylor_r@ligo.caltech.edu>,
yamamoto_h@ligo.caltech.edu,
zweizig_j@ligo.caltech.edu,
swang5@caltech.edu,
zhang_l@ligo.caltech.edu,
Mike <zucker_m@ligo.mit.edu>,
David Reitze <reitze@ligo.caltech.edu>,
Karsten <karsten.danzmann@aei.mpg.de>,
Clifford Will <cmw@wuphys.wustl.edu>,
Joan Centrella <joan.centrella@nasa.gov>,
Jose Geraldo Pereira <jpereira@ift.unesp.br>,
Marco <marco.drago@aei.mpg.de>,
Adrian Cho <acho@aaas.org>,
Mark Hannam <markodh@googlemail.com>,
Pedro Marronetti <pmarrone@nsf.gov>,
Lee Samuel Finn <lsfinn@psu.edu>,
Beverly Berger <grgsocietymail@gmail.com>,
César García Marirrodriga <Cesar.Garcia@esa.int>,
Paul McNamara <paul.mcnamara@esa.int>,
Ian Harrison <ian.harrison@esa.int>,
Damien Texier <contactesa@esa.int>,
Charles Dunn <Charles.E.Dunn@jpl.nasa.gov>,
Philippe Jetzer <jetzer@physik.uzh.ch>,
Eric Plagnol <eric.plagnol@apc.univ-paris7.fr>,
Martijn Smit <m.j.smit@uu.nl>,
Carlos Sopena <sopena@ieec.uab.es>,
Benjamin Knispel <benjamin.knispel@aei.mpg.de>,
Martin Hewitson <hewitson@aei.mpg.de>

Ladies and Gentlemen:

As Hermann Weyl proved in 1944, you cannot measure GWs with the linearized approximation of GR: see ref. [3] in my online paper 'Gravitational Wave Astronomy: RIP' at

http://www.god-does-not-play-dice.net/gwa_rip.pdf

Excerpt at

<http://www.god-does-not-play-dice.net/excerpt.jpg>

Details from Bernie Schutz and Remo Ruffini at

<http://www.god-does-not-play-dice.net/Schutz.pdf>

<http://www.god-does-not-play-dice.net/Ruffini.jpg>

Surely we can use the linearized approximation of GR for fixing the GPS system, but there is no way, not even in principle, to record the *dynamics* of energy transfer by GWs within a finite spacetime region (Bondi's "news field", Paper VII), measured with a clock pertaining to the same spacetime region: check out Angelo Loinger,

<http://arxiv.org/abs/0804.3991v1>

<http://arxiv.org/abs/physics/0506024v2>

Moreover, how come "the most powerful explosion humans have ever

detected except for the big bang" (Kip Thorne, see my online paper above) did not produce "any EM or particle emission whatsoever" (LIGO & VIGRO, arXiv:1602.08492v2 [astro-ph.HE], p. 9)? Recall that in "vacuum spacetime" there is only Weyl "curvature" that "governs the propagation of gravitational radiation through regions of space devoid of matter",

https://en.wikipedia.org/wiki/Weyl_tensor

What can you cook up with Weyl "curvature"? Gravitons?

GW150914 was a FRAUD.

F R A U D .

You really deserve Donald Trump to be your President.

D. Chakalov
chakalov.net

=====

Subject: GW150914 is a FRAUD.
Date: Thu, 9 Jun 2016 02:47:15 +0000
Message-ID: <CAM7EkxXuhD8n-zDXgnhrJqGHrdA0EFwWsmP-EXYrbdqS-hG0Q@mail.gmail.com>
From: Dimi Chakalov <dchakalov@gmail.com>
To: Nigel <nigeltbishop@gmail.com>, Nigel <n.bishop@ru.ac.za>, Luciano <rezzolla@itp.uni-frankfurt.de>, Jeffrey Winicour <winicour@pitt.edu>, Zhao-Yan Wu <zhaoyanwu2000@yahoo.com>, William G Unruh <unruh@physics.ubc.ca>, Kip <kip@tapir.caltech.edu>, Saul <saul@astro.cornell.edu>, Alessandra <alessandra.buonanno@aei.mpg.de>, m.duez@wsu.edu, Lawrence Kidder <kidder@astro.cornell.edu>, glovelace@exchange.fullerton.edu, cott@tapir.caltech.edu, Rob Owen <rowen@oberlin.edu>, Harald Pfeiffer <pfeiffer@cita.utoronto.ca>, Mark Scheel <scheel@tapir.caltech.edu>, andy@andybohn.com, Stewart Shapiro <shapiro.4@osu.edu>, lsc-spokesperson@ligo.org, virgo-spokesperson@ego-gw.eu, Lvc Publications <lvc.publications@ligo.org>, R Penrose <penroad@wadh.ox.ac.uk>, Valerie Connaughton <valerie@nasa.gov>, Deirdre Shoemaker <dshoemaker3@gatech.edu>, Janna Levin <jlevin@barnard.edu>, Pablo Laguna <plaguna3@gatech.edu>, Karan Jani <kjani3@gatech.edu>, James Healy <jchsma@rit.edu>,

Lionel London <llondon6@gatech.edu>,
Vova <volodya@caltech.edu>,
Paul Klinger <paul.klinger@univie.ac.at>,
Daniel Roberts <drob@mit.edu>,
Daniele Malafarina <daniele.malafarina@nu.edu.kz>,
Francesco Maione <francesco.maione@fis.unipr.it>,
Mustapha Ishak <mishak@utdallas.edu>,
Weipeng Lin <linwp@shao.ac.cn>,
Juntai Shen <jshen@shao.ac.cn>,
Feng Yuan <fyuan@shao.ac.cn>,
Adam Helfer <helfera@missouri.edu>,
Laszlo Szabados <lbszab@rmki.kfki.hu>,
Jörg Frauendiener <joergf@maths.otago.ac.nz>,
Jose M M Senovilla <josemm.senovilla@ehu.es>,
Etera Livine <etera.livine@ens-lyon.fr>,
Carlos Kozameh <kozameh@famaf.unc.edu.ar>,
Luca Bombelli <luca@phy.olemiss.edu>,
Luca Fabbri <luca.fabbri@bo.infn.it>,
Ettore Minguzzi <ettore.minguzzi@unifi.it>,
Chiang-Mei Chen <cmchen@phy.ncu.edu.tw>,
Lars Andersson <laan@aei.mpg.de>,
Hermann Nicolai <nicolai@aei.mpg.de>,
Eugenio Bianchi <exb34@psu.edu>,
Carlo <rovelli.carlo@gmail.com>,
Yuan K Ha <yuanha@temple.edu>,
Joe Polchinski <joep@itp.ucsb.edu>,
Robert Jaffe <jaffe@mit.edu>,
Gerard Hooft 't <g.thoof@phys.uu.nl>,
Lau Loi So <s0242010@gmail.com>,
Josh Goldberg <goldberg@phy.syr.edu>,
John Stachel <john.stachel@gmail.com>,
Manlio De Domenico <manlio.dedomenico@urv.cat>,
Vincenzo Branchina <vincenzo.branchina@ct.infn.it>,
Rod Diehl <rod@mpe.mpg.de>,
Rob Preece <rob.preece@nasa.gov>,
Jochen Greiner <jcg@mpe.mpg.de>,
narayana.bhat@nasa.gov,
michael.briggs@nasa.gov,
michael.burgess <jmichaelburgess@gmail.com>,
EricKayserBurns@gmail.com,
William.Cleveland@nasa.gov,
stephen.e.elrod@nasa.gov,
jerry.fishman@nasa.gov,
gerard.fitzpatrick@ucdconnect.ie,
lisa.gibby@nasa.gov,
misty.m.giles@nasa.gov,
adam.m.goldstein@nasa.gov,
c.m.hui@nasa.gov,
peter.a.jenke@nasa.gov,
azk@mpe.mpg.de,
mkippen@lanl.gov,
ckouveliotou@gwu.edu,
bagrat.mailyan@uah.edu,
sheila.mcbreen@ucd.ie,
charles.a.meegan@nasa.gov,
bill.paciesas@nasa.gov,
vero.pelassa@gmail.com,
arau@mpe.mpg.de,
Oliver Roberts <oliver.roberts@ucd.ie>,

Matthew Stanbro <mcs0001@uah.edu>,
david.tierney@ucd.ie,
pv0004@uah.edu,
colleen.wilson@nasa.gov,
gyounes@email.gwu.edu,
Binbin Zhang <bz0006@uah.edu>,
Remo <ruffini@icra.it>,
Jose Rodriguez <jose.rodriguez2@correo.uis.edu.co>,
Jorge Rueda <jorge.rueda@icra.it>,
Shuang Nan Zhang <zhangsn@ihep.ac.cn>,
Yanbei Chen <yanbei@caltech.edu>,
David Garfinkle <garfinkl@oakland.edu>,
Gaurav Goswami <gaurav.goswami@ahduni.edu.in>,
Gianluca Calcagni <calcagni@iem.cfmac.csic.es>,
John Klauder <klauder@phys.ufl.edu>,
Don Page <profdonpage@gmail.com>,
Rosalba Perna <rosalba.perna@stonybrook.edu>,
Abraham Loeb <aloeb@cfa.harvard.edu>,
Paul Steinhardt <steinh@princeton.edu>,
Davide Lazzati <lazzatid@science.oregonstate.edu>,
Bruno Giacomazzo <bruno.giacomazzo@unitn.it>,
Carla Cederbaum <cederbaum@math.uni-tuebingen.de>,
Klaus Sibold <klaus.sibold@itp.uni-leipzig.de>,
Gerhard Huisken <gerhard.huisken@uni-tuebingen.de>,
Christopher Nerz <christopher.nerz@math.uni-tuebingen.de>,
Greg Galloway <galloway@math.miami.edu>,
Hans Ringström <hansr@kth.se>,
Stefan Hollands <stefan.hollands@itp.uni-leipzig.de>,
Phil <contact@philippefloch.org>,
Pietro Oliva <pietro.oliva@unicusano.it>,
Richard M Schoen <schoen@math.stanford.edu>,
Sergiu Klainerman <seri@math.princeton.edu>,
Piotr T Chrusciel <piotr.chrusciel@univie.ac.at>,
Robert M Wald <rmwa@midway.uchicago.edu>,
Gustav <g.holzegel@imperial.ac.uk>,
George Ellis <gfrellis@gmail.com>,
Jean-Pierre Bourguignon <jpb@ihes.fr>,
Bruce Allen <bruce.allen@aei.mpg.de>,
Ericourgoulhon <eric.gourgoulhon@obspm.fr>,
Tomohiro Nakama <tomohiro.nakama@gmail.com>,
Gabriela González <gonzalez@lsu.edu>,
Karel V Kuchar <kuchar@physics.utah.edu>,
Richard Price <rprice.physics@gmail.com>,
Ronald J Adler <gyreron@gmail.com>,
Xiao Zhang <xzhang@amss.ac.cn>,
Chris Isham <c.isham@imperial.ac.uk>,
Gian Michele Graf <gian-michele.graf@itp.phys.ethz.ch>,
Emanuele <berti@wugrav.wustl.edu>,
Jean-Pierre Derendinger <derendinger@itp.unibe.ch>,
Mu-Tao Wang <mtwang@math.columbia.edu>,
PoNing Chen <pnchen@math.columbia.edu>,
Paul Tod <tod@maths.ox.ac.uk>,
Ezra Newman <newman@pitt.edu>,
Wei-Tou Ni <weitou@gmail.com>,
Sascha Husa <sascha.husa@gmail.com>,
David B Malament <dmalamen@uci.edu>,
Alessandra Buonanno <buonanno@physics.umd.edu>,
Bernd Brügmann <b.bruegmann@tpi.uni-jena.de>,
Bernard Schutz <Bernard.Schutz@aei.mpg.de>,

Oliver Jennrich <oliver.jennrich@esa.int>,
James Ira Thorpe <james.i.thorpe@nasa.gov>,
Rainer Weiss <weiss@ligo.mit.edu>,
Alan Weinstein <ajw@ligo.caltech.edu>,
Luciano <rezzolla@th.physik.uni-frankfurt.de>,
Gary Horowitz <gary@physics.ucsb.edu>,
Steven Weinberg <weinberg@physics.utexas.edu>,
abbott_b@ligo.caltech.edu,
anderson_s@ligo.caltech.edu,
barish_b@ligo.caltech.edu,
sarah.gossan@tapir.caltech.edu,
gustafson_e@ligo.caltech.edu,
JulieHiroto LIGO <jhiroto@ligo.caltech.edu>,
Kenneth Libbrecht <kgl@caltech.edu>,
Bob Taylor <taylor_r@ligo.caltech.edu>,
yamamoto_h@ligo.caltech.edu,
zweizig_j@ligo.caltech.edu,
swang5@caltech.edu,
zhang_l@ligo.caltech.edu,
Mike <zucker_m@ligo.mit.edu>,
David Reitze <reitze@ligo.caltech.edu>,
Karsten <karsten.danzmann@aei.mpg.de>,
Clifford Will <cmw@wuphys.wustl.edu>,
Joan Centrella <joan.centrella@nasa.gov>,
Jose Geraldo Pereira <jpereira@ift.unesp.br>,
Marco <marco.drago@aei.mpg.de>,
Adrian Cho <acho@aaas.org>,
Mark Hannam <markodh@googlemail.com>,
Pedro Marronetti <pmarrone@nsf.gov>,
Lee Samuel Finn <lsfinn@psu.edu>,
Beverly Berger <grgsocietymail@gmail.com>,
César García Marirrodriga <Cesar.Garcia@esa.int>,
Paul McNamara <paul.mcnamara@esa.int>,
Ian Harrison <ian.harrison@esa.int>,
Damien Texier <contactesa@esa.int>,
Charles Dunn <Charles.E.Dunn@jpl.nasa.gov>,
Philippe Jetzer <jetzer@physik.uzh.ch>,
Eric Plagnol <eric.plagnol@apc.univ-paris7.fr>,
Martijn Smit <m.j.smit@uu.nl>,
Carlos Sopena <sopena@ieec.uab.es>,
Benjamin Knispel <benjamin.knispel@aei.mpg.de>,
Martin Hewitson <hewitson@aei.mpg.de>,
Hans Ohanian <hohanian@uvm.edu>,
James M Nester <nester@phy.ncu.edu.tw>,
Sean Hayward <sean_a_hayward@yahoo.co.uk>,
Merced Montesinos Velásquez <merced@fis.cinvestav.mx>,
Daniel Kenefick <danielk@uark.edu>,
Mike Cruise <amc@star.sr.bham.ac.uk>,
Dick Gustafson <gustafso@umich.edu>,
Alvaro Gimenez <alvaro.gimenez@esa.int>,
Ruedeger Reinhard <reinhard@so.estec.esa.nl>,
Jim Hough <J.Hough@physics.gla.ac.uk>,
Stefano Vitale <vitale@science.unitn.it>,
Sheila Rowan <S.Rowan@physics.gla.ac.uk>,
Giovanni Bignami <bignami@cesr.fr>,
Ralph Cordey <Ralph.Cordey@astrium.eads.net>,
Keith Mason <keith.mason@stfc.ac.uk>,
hans.balsiger@phim.unibe.ch,
Eileen Jackson <jacksoee@adf.bham.ac.uk>,

Elizabeth Winstanley <E.Winstanley@sheffield.ac.uk>,
newman@lheamail.gsfc.nasa.gov,
esp@tapir.caltech.edu,
s.marcuccio@cpr.it,
touboul@onera.fr,
h.ward@physics.gla.ac.uk,
John.W.Armstrong@jpl.nasa.gov,
shoemaker_d@ligo.mit.edu,
Massimo.Tinto@jpl.nasa.gov,
William.M.Folkner@jpl.nasa.gov,
Frank.B.Estabrook@jpl.nasa.gov,
Curt.Cutler@aei.mpg.de,
Richard Gray <richard.gray@telegraph.co.uk>,
john.womersley@stfc.ac.uk,
council@stfc.ac.uk,
enquiries@stfc.ac.uk,
info@rcuk.ac.uk,
Michele Maggiore <michele.maggiore@unige.ch>

Re: Nigel Bishop, Luciano Rezzolla, Extraction of Gravitational Waves
in Numerical Relativity, arXiv:1606.02532v1 [gr-qc], 8 June 2016:
"comments and corrections welcome"

Nigel and Luciano:

You stated that "the strongest gravitational-wave signals come from highly compact systems with large velocities, that is from processes where the linearized assumptions do not apply. And of course, it is an event producing a powerful signal that is most likely to be found in gravitational-wave detector data."

1. I sharply disagree with your claim that the "powerful signal" is "most likely (Sic! - D.C.) to be found in gravitational-wave detector data."

This totally unknown "powerful signal" is the *prototype* of GW150914, and your claim above runs against the basic rule of GR:

<http://www.god-does-not-play-dice.net/gravity.jpg>

2. Regarding Eq. 100 on p. 22, and Sec. 3.3.2, Eq. 108 on p. 26, you wrote: "If the desired output of a computation is a waveform (to be used, say, in the analysis of LIGO detector data), then $[\phi]^4$ needs to be translated into its wave strain components (h_+ ; h_x)."

The totally unknown wave strain components (h_+ ; h_x) of the *prototype* of GW150914 cannot, not even in principle, be kept *intact* for over one billion years of continuous interactions with matter and fields, until they reach LIGO on Earth -- see the URL above.

You MUST prove that very strong, non-linear GWs do NOT interact with matter and fields in the first place. At this moment, your latest paper presupposes some gravitational "ghost" that can act on matter but will not be acted upon by matter, in sharp contradiction with the basic rule of GR -- see the URL above.

Please let me know when you are ready to publish the second revised version of your paper, arXiv:1606.02532v2 [gr-qc], and I will explain your problems with the "asymptotic" treatment of GWs at "null infinity" and the need to install GW mirrors exactly at null-and-spacelike infinity. Details at my website; a brief outlook at

<http://www.god-does-not-play-dice.net/gravity.pdf>

Sincerely,

D. Chakalov
chakalov.net

NOTE

The experts at LIGO and VIRGO will need another Biblical "miracle" to install GW mirrors exactly at null-and-spacelike infinity. Only GR ghosts won't need such mirrors, because GR ghosts can do everything and anything to please the experts at LIGO and VIRGO.

Also, these experts will need yet another Biblical "miracle" to solve the problems known at least since August 2002: read Bernie Schutz at

<http://www.god-does-not-play-dice.net/Schutz.pdf>

And the last "miracle" needed to explain GW150914 is the production of "gravitons" from the "shape dynamics" in Ricci-flat manifolds:

https://en.wikipedia.org/wiki/Ricci-flat_manifold

"For example, in a Ricci-flat manifold, a circle in Euclidean space may be deformed into an ellipse with equal area. This is due to Weyl curvature."

https://en.wikipedia.org/wiki/Weyl_tensor

"In general relativity, the Weyl curvature is the only part of the curvature that exists in free space -- a solution of the vacuum Einstein equation -- and it governs the propagation of gravitational radiation through regions of space devoid of matter (Sic! - D.C.). More generally, the Weyl curvature is the only component of curvature for Ricci-flat manifolds and always governs the characteristics of the field equations of an Einstein manifold."

Why do they have to derive "gravitons" exclusively from Weyl curvature? Because they declared (LIGO & VIRGO, arXiv:1602.08492v2, p. 9) that "a vacuum BBH merger does not produce any EM or particle emission whatsoever."

Only "gravitons", ensuing from the mathematical fact that, due to Weyl curvature, a circle in Euclidean space may be deformed into an ellipse with equal area (see above), which produced "the most powerful explosion humans have ever detected except for the big bang" (Kip Thorne, see gwa_rip.pdf at the link below).

Needless to say, these experts will have to explain their brand new theory of quantum gravity, because GW150914 was also the ultimate proof of "gravitons".

This is their THIRD colossal discovery, after the discoveries of (1) GWs in the linearized approximation of GR and (2) black holes, which they will use to explain

the contributions of vacuum energy to gravity by "gravitons":

https://en.wikipedia.org/wiki/Einstein_field_equations#The_cosmological_constant

Unless, of course, GW150914 was actually a plain FRAUD:

http://www.god-does-not-play-dice.net/gwa_rip.pdf

What can we make from the long tunnels of LIGO, VIGRO, GEO, TAMA, etc.?
Wine cellars ?

Ceterum censeo LIGO esse delendam.

D. Chakalov
June 9, 2016
Last updated: June 10, 2016, 12:10 GMT

=====

Subject: [Hyperimaginary numbers](#)
Date: Sun, 19 Jun 2016 13:41:57 +0000
Message-ID:
<CAM7Ekx=3rfk7D3rSZZC6nhnKzcQno_zMvaSYaH81ticK+Gr5Rw@mail.gmail.com>
From: Dimi Chakalov <dchakalov@gmail.com>
To: Louis H Kauffman <kauffman@uic.edu>, Jonathan Hackett
<jonathanhackett@gmail.com>,
Walter Craig <craig@math.mcmaster.ca>, Steven Weinstein <sw@uwaterloo.ca>,
J Richard Gott <jrg@astro.princeton.edu>, Li-Xin Li <Prof.Li.Xin.Li@gmail.com>,
Marvin Weinstein <niv@slac.stanford.edu>, eberzunuz@fields.utoronto.ca,
director@fields.utoronto.ca, communications@fields.utoronto.ca,
jgbennettfoundation@verizon.net, Templeton Foundation <info@templeton.org>,
Andrew <a.baker@maths.gla.ac.uk>, Sarah <S.Whitehouse@sheffield.ac.uk>,
Clay Mathematics Institute <president@claymath.org>

Dear Colleagues,

Please see an excerpt (attached) from my website at chakalov.net. Please let me know if you would be interested.
The so-called hyperimaginary numbers are proposed to explain Gustaf Strömberg's Eternity Domain and John G. Bennett's Eternity Now.

If you are interested in theoretical physics, check out

<http://www.god-does-not-play-dice.net/gravity.pdf>
http://www.god-does-not-play-dice.net/Fig_8_small.jpg

Kind regards,

Dimi Chakalov
chakalov.net

--

Attachment:
http://www.god-does-not-play-dice.net/hyperimaginary_numbers.jpg

=====
Subject: Request for reference
Date: Mon, 20 Jun 2016 12:18:57 +0000
Message-ID: <CAM7Ekx=dZMfjJbG5xzkCCQ_SozTsK3o56W80HHkBr7p1-S5+5Q@mail.gmail.com>
From: Dimi Chakalov <dchakalov@gmail.com>
To: Fangyu Li <cqufangyuli@hotmail.com>, Fangyu Li <fangyuli@cqu.edu.cn>, Nan Yang <cquyangnan@cqu.edu.cn>, Zhenyun Fang <zyf@cqu.edu.cn>, Robert Baker <DrRobertBaker@GravWave.com>, Gary Stephenson <seculine@gmail.com>, Enrico Montanari <montana@axpfe.fe.infn.it>

Dear Colleagues,

Sorry for this unsolicited email.

I have a request for reference to the first proposal for "pulsating" GW, as mentioned in

https://en.wikipedia.org/wiki/Gravitational_wave#Introduction

Linearly polarised gravitational wave:

https://en.wikipedia.org/wiki/File:Quadrupol_Wave.gif

That is, who has suggested plus-polarized & cross-polarized gravitational wave, and how.

Kip Thorne mentioned this hypothetical effect in Caltech Physics 237-2002 (please see his slide 4 attached), but I cannot find the original reference. It is not Gertsenshtein and Pustovoit,

https://en.wikipedia.org/wiki/Gravitational_wave#cite_note-24

I hope you could help.

Thank you in advance for your time and consideration.

Kind regards,

Dimi Chakalov

--

Attachment:

http://www.god-does-not-play-dice.net/kip_slide_4.jpg

=====
Subject: Re: Request for reference
Date: Mon, 20 Jun 2016 21:43:45 +0000
Message-ID: <CAM7Ekx=0usdBATLdyi6sW6+-rTAi_GGaBkapkTgYHEM85THDtw@mail.gmail.com>
From: Dimi Chakalov <dchakalov@gmail.com>
To: Seculine <seculine@gmail.com>
Cc: Fangyu Li <cqufangyuli@hotmail.com>, Fangyu Li <fangyuli@cqu.edu.cn>,

Nan Yang <cquyangnan@cqu.edu.cn>,
Zhenyun Fang <zyf@cqu.edu.cn>,
Robert Baker <DrRobertBaker@gravwave.com>,
Enrico Montanari <montana@axpfe.fe.infn.it>,
George F Smoot III <gfsmoot@lbl.gov>,
Yuan K Ha <yuanha@temple.edu>,
Chungyin Lo <c_y_lo@yahoo.com>,
Richard Price <rprice.physics@gmail.com>,
Josh Goldberg <goldberg@phy.syr.edu>,
Kip <kip@tapir.caltech.edu>,
David Garfinkle <garfinkl@oakland.edu>,
Ron Drever <rdrever@caltech.edu>

Gary:

Thanks for your reply.

> The possibility of plus and cross polarizations of GW being orthogonal is due
> to the 180 degree invariance angle of GW.

Check out

<http://www.god-does-not-play-dice.net/gravity.pdf>

> The 180 degree invariance angle is a well known outcome of the GW wave
> equation. If you need a reference I would recommend Smoot's textbook.

There is no reference in Smoot's essay at

<http://aether.lbl.gov/www/classes/p139/homework/hw12.pdf>

George: Do you actually know the reference?

I extend this question to all your colleagues.

All the best,

Dimi

--

D. Chakalov

chakalov.net

On Mon, 20 Jun 2016 12:18:57 +0000, Dimi Chakalov <dchakalov@gmail.com> wrote:

>

>>

>> Dear Colleagues,

>>

>> Sorry for this unsolicited email.

>>

>> I have a request for reference to the first proposal for "pulsating"

>> GW, as mentioned in

>>

>> https://en.wikipedia.org/wiki/Gravitational_wave#Introduction

>> Linearly polarised gravitational wave:

>> https://en.wikipedia.org/wiki/File:Quadrupol_Wave.gif

>>

>> That is, who has suggested plus-polarized & cross-polarized

>> gravitational wave, and how.

>>

>> Kip Thorne mentioned this hypothetical effect in Caltech Physics

>> 237-2002 (please see his slide 4 attached), but I cannot find the

>> original reference. It is not Gertsenshtein and Pustovoit,
>> https://en.wikipedia.org/wiki/Gravitational_wave#cite_note-24
>>
>> I hope you could help.
>>
>> Thank you in advance for your time and consideration.
>>
>> Kind regards,
>>
>> Dimi Chakalov
>>
>>

--
Attachment:

http://www.god-does-not-play-dice.net/kip_slide_4.jpg

=====

Subject: Re: arxiv:1606.04266
Date: Tue, 21 Jun 2016 09:29:34 +0000
Message-ID:
<CAM7EkxkwGcpKJLHJNnc_RU8B4vaMfMw+TDQ5ngdUz4NdtE6bQ@mail.gmail.com>
From: Dimi Chakalov <dchakalov@gmail.com>
To: YUAN K HA <yuanha@temple.edu>,
A K Chaudhuri <asiskumarchaudhuri@gmail.com>,
Theory Department CERN <th-unit-secretariat@cern.ch>,
theory@mail.jlu.edu.cn,
theoryseminar@googlemail.com,
Theocharis Apostolatos <gravitygreece@gmail.com>,
Theor-Physik@univie.ac.at,
Peter Woit <woit@math.columbia.edu>

> See a paper at <http://arxiv.org/abs/1606.04266> by A.K. Chaudhuri .

Thanks a lot. See the root of the problem from 1911,
http://www.god-does-not-play-dice.net/Fig_8_small.jpg

The talibans at CERN banned my email address as "phishing attack".

As to their "quantum gravity", see
<http://www.god-does-not-play-dice.net/GW150914.pdf>
<http://www.god-does-not-play-dice.net/gravity.pdf>

Details at my website below.

Dimi

--

D. Chakalov
chakalov.net

NOTE

See how the talibans at CERN blocked my email address as "phishing attack":

http://www.god-does-not-play-dice.net/CERN_talibans.jpg

<http://www.god-does-not-play-dice.net/CERN.pdf>

There ain't no "fundamental scalar Higgs bozon". The Higgs bozon saga is like "proving" an essential component of the ultraviolet catastrophe, before the discovery by Max Planck in 1900.

The Higgs bozon leads only to 'reduction ad absurdum': the universe is much larger than a football,

http://www.god-does-not-play-dice.net/van_Vulpen_p40.jpg

BILLIONS of taxpayers' money have been wasted, and much more are scheduled to be wasted by CERN talibans.

Shame on you, Theory Department CERN <th-unit-secretariat@cern.ch>.

D. Chakalov
June 21, 2016

=====

Subject: Are you interested in GR "miracles" ?
Date: Sat, 23 Jul 2016 13:54:55 +0000
Message-ID: <CAM7Ekxn243shFucRjrQ0-tGeABmnKqePAPvcAMYmvCtGSNXvAw@mail.gmail.com>
From: Dimi Chakalov <dchakalov@gmail.com>
To: Steven Weinberg <weinberg@physics.utexas.edu>,
Steven Weinstein <sw@uwaterloo.ca>,
Alan J Weinstein <ajw@caltech.edu>,
Richard Price <rprice.physics@gmail.com>,
Josh Goldberg <goldberg@phy.syr.edu>,
Ronald J Adler <gyroron@gmail.com>,
Karel V Kuchar <kuchar@physics.utah.edu>,
Andrzej Mariusz Trautman <amt@fuw.edu.pl>,
Kip <kip@tapir.caltech.edu>,
Bruce Allen <bruce.allen@aei.mpg.de>,
Luciano <rezzolla@th.physik.uni-frankfurt.de>,
Gary Horowitz <gary@physics.ucsb.edu>,
David Garfinkle <garfinkl@oakland.edu>,
Rainer Weiss <weiss@ligo.mit.edu>,
Alessandra Buonanno <buonanno@physics.umd.edu>,
Gabriela González <gonzalez@lsu.edu>,
Charles Torre <charles.torre@usu.edu>,
Chris Isham <c.isham@imperial.ac.uk>,
Norbert Straumann <norbert.straumann@gmail.com>,
Yuan K Ha <yuanha@temple.edu>,
Daniel Kenefick <danielk@uark.edu>,
Luca Bombelli <luca@phy.olemiss.edu>,
Michele Maggiore <michele.maggiore@unige.ch>,
Gerard Auger <auger@apc.univ-paris7.fr>,
Eric Plagnol <plagnol@apc.univ-paris7.fr>,
Antoine Petiteau <antoine.petiteau@apc.univ-paris7.fr>,

Alexandre Le Tiec <letiec@obspm.fr>,
Jerome Novak <Jerome.Novak@obspm.fr>,
Thibault Damour <damour@ihes.fr>,
Luc Blanchet <blanchet@iap.fr>,
Alain Blanchard <alain.blanchard@ast.obs-mip.fr>,
Jean-Philippe Uzan <uzan@iap.fr>,
Lukas <lukas.ifsits@univie.ac.at>,
Piotr <piotr.chrusciel@univie.ac.at>,
Sergiu Klainerman <seri@math.princeton.edu>,
Sascha Husa <sascha.husa@gmail.com>,
Robert Beig <robert.beig@univie.ac.at>,
Jörg Frauendiener <joergf@maths.otago.ac.nz>,
Laszlo Szabados <lbszab@rmki.kfki.hu>,
Adam Helfer <helfera@missouri.edu>,
Greg Galloway <galloway@math.miami.edu>,
John Baez <baez@math.ucr.edu>,
Paul Tod <tod@maths.ox.ac.uk>,
Domenico Giulini <giulini@itp.uni-hannover.de>,
Jose Geraldo Pereira <jpereira@ift.unesp.br>,
Robert Geroch <geroch@midway.uchicago.edu>,
Demetrios Christodoulou <demetri@math.ethz.ch>,
George Ellis <gfrellis@gmail.com>,
Gian Michele Graf <gian-michele.graf@itp.phys.ethz.ch>,
Helmut Friedrich <hef@aei.mpg.de>,
John Stachel <john.stachel@gmail.com>,
Ettore Minguzzi <ettore.minguzzi@unifi.it>,
Lars Andersson <laan@aei.mpg.de>,
Ezra Newman <newman@pitt.edu>,
Christian Pfeifer <christian.pfeifer@itp.uni-hannover.de>,
Sascha Husa <sascha.husa@uib.es>,
Alan Rendall <rendall@uni-mainz.de>,
Saul Teukolsky <saul@astro.cornell.edu>,
Niall Murchadha <niall@ucc.ie>,
Bernard Schutz <Bernard.Schutz@aei.mpg.de>,
Eric Gourgoulhon <eric.gourgoulhon@obspm.fr>,
David B Malament <dmalamen@uci.edu>,
Erik Curiel <erik@strangebeautiful.com>,
Xiao Zhang <xzhang@amss.ac.cn>,
Mu-Tao Wang <mtwang@math.columbia.edu>,
Christian Wuthrich <beyondspacetimeseminar@gmail.com>,
Zhaoyan Wu <zhaoyanwu2000@yahoo.com>,
Takashi Nakamura <takashi@tap.scphys.kyoto-u.ac.jp>,
Hiroyuki Nakano <hinakano@yukawa.kyoto-u.ac.jp>,
Tomoya Kinugawa <kinugawa@tap.scphys.kyoto-u.ac.jp>,
Tetsuya Shiromizu <shiromizu@math.nagoya-u.ac.jp>,
Tatsuya Matsumoto <matsumoto@tap.scphys.kyoto-u.ac.jp>,
Avneet <avneet.singh@aei.mpg.de>,
Maria Alessandra Papa <maria.alessandra.papa@aei.mpg.de>,
Heinz-Bernd Eggenstein <heinz-bernd.eggenstein@aei.mpg.de>,
Emanuele <berti@wugrav.wustl.edu>,
Clifford Will <cmw@wuphys.wustl.edu>,
William G Unruh <unruh@physics.ubc.ca>,
David Shoemaker <dhs@mit.edu>,
Stan Whitcomb <stan.whitcomb@ligo.org>,
Stefano Vitale <vitale@science.unitn.it>,
Deirdre Shoemaker <deirdre.shoemaker@physics.gatech.edu>,
Remo <ruffini@icra.it>,
C Y Lo <chungy.lo@gmail.com>,
Jose Rodriguez <jose.rodriguez2@correo.uis.edu.co>,

Jorge Rueda <jorge.rueda@icra.it>,
Nigel <n.bishop@ru.ac.za>,
Rosalba Perna <rosalba.perna@stonybrook.edu>,
Abraham Loeb <aloeb@cfa.harvard.edu>,
Valerie Connaughton <valerie@nasa.gov>,
abbott_b@ligo.caltech.edu,
anderson_s@ligo.caltech.edu,
barish_b@ligo.caltech.edu,
sarah.gossan@tapir.caltech.edu,
gustafson_e@ligo.caltech.edu,
JulieHiroto LIGO <jhiroto@ligo.caltech.edu>,
Kenneth Libbrecht <kgl@caltech.edu>,
Bob Taylor <taylor_r@ligo.caltech.edu>,
yamamoto_h@ligo.caltech.edu,
zweizig_j@ligo.caltech.edu,
swang5@caltech.edu,
zhang_l@ligo.caltech.edu,
Mike <zucker_m@ligo.mit.edu>,
Joan Centrella <joan.centrella@nasa.gov>,
Marco <marco.drago@aei.mpg.de>,
Adrian Cho <acho@aaas.org>,
Mark Hannam <markodh@googlemail.com>,
Pedro Marronetti <pmarrone@nsf.gov>,
Lee Samuel Finn <lsfinn@psu.edu>,
Beverly Berger <grgsocietymail@gmail.com>,
César García Marirrodriga <Cesar.Garcia@esa.int>,
Paul McNamara <paul.mcnamara@esa.int>,
Ian Harrison <ian.harrison@esa.int>,
Damien Texier <contactesa@esa.int>,
Charles Dunn <Charles.E.Dunn@jpl.nasa.gov>,
Gustav <g.holzegel@imperial.ac.uk>,
Jean-Pierre Bourguignon <jpb@ihes.fr>,
Mike Cruise <a.m.cruise@bham.ac.uk>

Gravitational Wave Miracles?

http://www.god-does-not-play-dice.net/gw_miracles.pdf

July 23, 157,467 bytes, gw_miracles.pdf, 2 pages.

D. Chakalov
chakalov.net

=====

Subject: How to enrich the real line?

Date: Sat, 30 Jul 2016 13:05:36 +0300

Message-ID:

<CAM7Ekx=E5Ka4oyrM1uEfA4C1ya9iqR=s3cy0K8NcooArZH6icg@mail.gmail.com>

From: Dimi Chakalov <dchakalov@gmail.com>

To: Michael Heller <mheller@wsd.tarnow.pl>

Cc: Jerzy Krol <iriking@wp.pl>, Doris Donnelly <dDonnelly@jcu.edu>,
Chris Isham <c.isham@imperial.ac.uk>, Karel V Kuchar <kuchar@physics.utah.edu>,

Andreas <andreas.doering@comlab.ox.ac.uk>, Bob Coecke <coecke@comlab.ox.ac.uk>, Torsten Asselmeyer-Maluga <torsten.asselmeyer-maluga@dlr.de>, Carl H Brans <brans@loyno.edu>, Guy Consolmagno <gjc@specola.va>, ggionti@specola.va, dlehr@templetonprize.org, info@templetonprize.org

Dear Michael,

I've been trying to reach you for over ten years.

Regarding your latest paper [Ref. 1], please see my website (link below). I have suggested new numbers, dubbed [hyperimaginary numbers](#), which contain all "points" from the real line as limiting case. Such extension of spacetime is **unique**.

The original proposal about the root of all possible causes is from Plato. It is all about Mathematics.

Yours in Christ,

Dimi

--

D. Chakalov
chakalov.net

[Ref. 1] Michael Heller, Jerzy Król, Synthetic Approach to the Singularity Problem, arXiv:1607.08264v1 [gr-qc], 27 July 2016.
<http://arxiv.org/abs/1607.08264v1>

=====

Subject: Euclid (Valeria Pettorino et al., [arXiv:1606.00180v1 \[astro-ph.CO\]](#))
Date: Thu, 18 Aug 2016 14:14:23 +0000
Message-ID: <CAM7EkxkFA_bmc2NHh1CtM9G9vG9WpFk2YDtW-odQWHkkesM5Fw@mail.gmail.com>
From: Dimi Chakalov <dchakalov@gmail.com>
To: Euclid Theory Working Group <euclidtheoryreview@gmail.com>, Valeria <v.pettorino@thphys.uni-heidelberg.de>, Luca <l.amendola@thphys.uni-heidelberg.de>, Martin <martin.kunz@unige.ch>, magnard@iap.fr, werner.zeilinger@univie.ac.at, Huub Rottgering <rottgering@strw.leidenuniv.nl>, romain.teyssier@uzh.ch, Y Mellier <mellier@iap.fr>, Hans-Walter Rix <rix@mpia.de>, Bob Nichol <bob.nichol@port.ac.uk>, Jason Rhodes <jason.d.rhodes@jpl.nasa.gov>
Cc: J Anthony Tyson <tyson@physics.ucdavis.edu>, Anthony Zee <zee@kitp.ucsb.edu>, Gian Michele Graf <gian-michele.graf@itp.phys.ethz.ch>, Jean-Pierre Derendinger <derendinger@itp.unibe.ch>

Dear Colleagues,

I fully agree with you that "our knowledge of the universe's evolution is so incomplete that it would be premature to claim that we are close to understanding the ingredients of the cosmological standard model", and am taking the liberty of reminding you the most widely known, ever since 1911, public secret in physics:

http://www.god-does-not-play-dice.net/Fig_8_small.jpg

More from Schrödinger at

http://www.god-does-not-play-dice.net/Schroedinger_18_Nov_1950.jpg

http://www.god-does-not-play-dice.net/Derendiger_23.jpg

Briefly, you are missing an essential ingredient of your cosmological model, which, if interpreted as physical stuff, will require "dark" energy & "dark" matter.

But this essential ingredient is not physical entity, but 'res potentia' (Aristotle). Schrödinger explained it in 1935 (see the third link above), and Heisenberg in 1958:

<http://www.god-does-not-play-dice.net/Heisenberg.jpg>

You have to go back to 1911 to unravel it -- check out the first link above.

Details at my website below.

Kind regards,

Dimi Chakalov

chakalov.net

NOTE

Check out the Euclid Consortium, "a space mission to map the Dark Universe", at

<http://www.euclid-ec.org>

http://www.euclid-ec.org/?page_id=1184

(last update: Feb 03, 2016)

The physicists involved with Euclid deeply believe that "dark matter has to be non-baryonic" (Valeria Pettorino et al., [arXiv:1606.00180v1](https://arxiv.org/abs/1606.00180v1) [astro-ph.CO], p. 146), and speculate that "any direct (Sic! - D.C.) dark matter candidate discovery will give Euclid a clear goal to verify the existence of this particle on astrophysical scales" ([ibid.](#), p. 147).

The talibans at CERN already speculate about a new "heavier version of the Higgs Boson. About 12 times heavier. Or it could be that the Higgs Boson itself is made up of smaller particles, and that's what the experiment detected."

<http://www.universetoday.com/128710/new-particle-announced>

(article updated: 15 May 2016)

Since the talibans at CERN banned my email address,

<http://www.god-does-not-play-dice.net/CERN.pdf>

http://www.god-does-not-play-dice.net/CERN_talibans.jpg

I cannot refute anymore their ridiculous errors. Let me assume that you, my dear reader, are not "taliban" in science, and can read and think.

No, you cannot discover any "direct" candidate of "dark" matter or "dark" energy, simply because you cannot detect 'potential reality' or 'res potentia'. You could only discover its ***physicalized*** (no typo) presentations, as depicted in

<http://www.god-does-not-play-dice.net/unspeakable.jpg>

Don't forget another "dark" phenomenon, which is of purely [topological nature](#): see p. 2 in

http://www.god-does-not-play-dice.net/gravity_rotation.pdf

Or think about the topological dimensions of spacetime: do you expect a ***physical*** agent to produce time-orientability and baryon asymmetry?

http://www.god-does-not-play-dice.net/Piotr_p247.jpg
https://en.wikipedia.org/wiki/Baryon_asymmetry

If such ***physical*** agent could exist, it will be produced by another ***physical*** agent, etc., ad infinitum. Which is why Aristotle suggested the Unmoved Mover and First Cause, endowed with SELF-ACTION.

NB: All you can observe is matter acting on itself, and by itself. The same applies to the human brain: check out my email from 24 May 2016 [above](#).

You can never detect the underlying 'res potentia' endowed with self-action: the "[matrix](#)" of all matter.

More from Max Planck below.

D. Chakalov
August 20, 2016

--

There is no matter as such! All matter originates and exists only by virtue of a force which brings the particles of an atom to vibration and holds this most minute solar system of the atom together. We must assume behind this force the existence of a conscious and intelligent Geist (bewußten intelligenten Geist). This Geist is the matrix of all matter.

Geheimrat Max Planck
https://en.wikiquote.org/wiki/Max_Planck

=====

Subject: Re: [The Limit of Spacetime](#)

Date: Thu, 25 Aug 2016 17:00:55 +0300

Message-ID:

<CAM7Ekx=8eZ=NGBxkhjPdeZJv8pD663KaPdQ3z-ANnO8-vKBpkw@mail.gmail.com>

From: Dimi Chakalov <dchakalov@gmail.com>

To: Helena Granström <helena.granstrom@his.se>

Cc: Chris Isham <c.isham@imperial.ac.uk> ,

Ingemar Bengtsson <ingemar@physto.se> ,

Karel V Kuchar <kuchar@physics.utah.edu> ,

Karol Zyczkowski <karol@tatry.if.uj.edu.pl> ,

Patrik Lindberg <pali2100@student.su.se> ,

Emma Jakobsson <emma.jakobsson@fysik.su.se> ,

Sören Holst <holst@fysik.su.se> ,

Helgi Runarsson <helgi.runarsson@gmail.com> ,

Stefan Aminneborg <stefan.aminneborg@vetenskapenshus.se> ,

Jose Senovilla <josemm.senovilla@ehu.es> ,

Gian Michele Graf <gian-michele.graf@itp.phys.ethz.ch> ,

Robert M Wald <rmwa@midway.uchicago.edu> ,

Laszlo Szabados <lbszab@rmki.kfki.hu> ,

Adam Helfer <helfera@missouri.edu> ,

Jörg Frauendiener <joergf@maths.otago.ac.nz> ,

Carlo <rovelli.carlo@gmail.com> ,

Robert Geroch <geroch@midway.uchicago.edu> ,

R Penrose <penroad@wadh.ox.ac.uk>

Helena dear,

In your paper on the theorems of Gleason and Kochen-Specker (arXiv:quant-ph/0612103v2, [p. 2](#)), you stated that the color-able fraction "tends to 68% as N approaches infinity". So how can we explain the remaining 32% UNcolorizable "states" (if any)?

Here's what I told my daughter (same age as yours).

Suppose you have three guys, who can raise *simultaneously* either (1) their right hands, or (2) their left hands, or (3) their two hands. If the three guys could simultaneously do it, in any permutation of (1), (2), and (3), the "coloring" will be complete, just as in Hilbert space dimension $H(d) < 3$, and they all would teach "quantum computing", say.

Only they can't. Why? Because if two of them pick any of the two colorizable options, the third guy will have no "hands" whatsoever and will remain UNcolorizable, which is close to those 32% UNcolorizable "states" in your paper. Please notice that I do *not* refer to the 'contextuality' of the two colorizable options chosen by any two of the three guys, but to the mathematical fact that the *third* guy will always remain UNcolorizable: neither "is" nor "is not" [[Ref. 1](#)].

More from Erwin Schrödinger and Max Planck in my email [below](#), and from Werner Heisenberg at

<http://www.god-does-not-play-dice.net/Heisenberg.jpg>

Come back to Physics, Helena.

All the best,

Dimi

[Ref. 1] Ernst Specker, Die Logik nicht gleichzeitig entscheidbarer Aussagen, *Dialectica* 14, 239-246 (1960); see p. 243 at <http://www.god-does-not-play-dice.net/Specker.png>

On Thu, Aug 25, 2016 at 1:57 PM, Dimi Chakalov <dchakalov@gmail.com> wrote:

>

> Ingemar:

>

> You wrote at your website: "What I find fascinating about relativity
> and quantum mechanics -- as it happens, the two deepest theories we
> have -- is that their basic equations have been around for almost a
> hundred years, and yet they keep springing conceptual surprises on us.
[snip]

=====

Subject: The Limit of Spacetime

Date: Thu, 25 Aug 2016 13:57:07 +0300

Message-ID:

<CAM7Ekx=fzaz6E30CNSGs+EgpHE+59iErP9D2frqZFEjvct7j9A@mail.gmail.com>

From: Dimi Chakalov <dchakalov@gmail.com>

To: Ingemar Bengtsson <ingemar@physto.se>,
Ingemar Bengtsson <ibeng@fysik.su.se>

Cc: Helena Granström <helena.granstrom@his.se>,

Chris Isham <c.isham@imperial.ac.uk>,

Karel V Kuchar <kuchar@physics.utah.edu>,

Karol Zyczkowski <karol@tetry.if.uj.edu.pl>,

Patrik Lindberg <pali2100@student.su.se>,

Emma Jakobsson <emma.jakobsson@fysik.su.se>,

Sören Holst <holst@fysik.su.se>,

Helgi Runarsson <helgi.runarsson@gmail.com>,

Istvan Racz <racz.istvan@wigner.mta.hu>,

Stefan Aminneborg <stefan.aminneborg@vetenskapenshus.se>,

Jose Senovilla <josemm.senovilla@ehu.es>,

Gian Michele Graf <gian-michele.graf@itp.phys.ethz.ch>,

Robert M Wald <rmwa@midway.uchicago.edu>,

Laszlo Szabados <lbszab@rmki.kfki.hu>,

Adam Helfer <helfera@missouri.edu>,

Jörg Frauendiener <joergf@maths.otago.ac.nz>,

Carlo <rovelli.carlo@gmail.com>,

Robert Geroch <geroch@midway.uchicago.edu>,

R Penrose <penroad@wadh.ox.ac.uk>

Ingemar:

You wrote at your website: "What I find fascinating about relativity and quantum mechanics -- as it happens, the two deepest theories we have -- is that their basic equations have been around for almost a hundred years, and yet they keep springing conceptual surprises on us. I am looking for the next surprise there."

Only you never replied to my email messages. Check out the facts from 1911, http://www.god-does-not-play-dice.net/Fig_8_small.jpg

More at

http://www.god-does-not-play-dice.net/Schroedinger_18_Nov_1950.jpg
http://www.god-does-not-play-dice.net/Derendiger_23.jpg
http://www.god-does-not-play-dice.net/the_worst.jpg

You and Karol Zyczkowski have written extensively on quantum entanglement (Geometry of Quantum States: An Introduction to Quantum Entanglement, Cambridge University Press, 2007), and you personally know Chris Isham and Helena Granström (arXiv:quant-ph/0612103v2, [p. 2](#)), so none of the facts explained at the links above are new to you. Let me try to translate them to your field of expertise.

Regarding the limit of spacetime, you, Emma Jakobsson, and Sören Holst acknowledged in [arXiv:1406.4326v2 \[gr-qc\]](#) that "there does not exist any canonical way to set up a one-to-one correspondence between the points of the manifolds underlying two different solutions of the field equations" -- "there exists no natural identification point-by-point of two different spacetimes." I wrote many times to Bob Geroch regarding his 1969 essay on the limit of spacetime (Commun. Math. Phys. 13 (1969) 180-193), but he never responded either.

You don't have any choice. Forget about any "embedding" spacetime and Penrose's conformal recipe,

http://www.god-does-not-play-dice.net/Penrose_omega_zero.jpg
http://www.god-does-not-play-dice.net/Chuck_Norris.jpg

The unique limit of spacetime is NOT 'spacetime'. Plato has explained the issue some twenty-five centuries ago -- check out also Max Planck and my website below. To be specific, "two different solutions of the field equations" (see above) cannot, not even in principle, be linked by any mathematical procedure determined on 'spacetime', because their genuine "connection" passes through their common UNphysical source, which is NOT 'spacetime'. In Plato's parlance, the link between different consecutive 4-D physicalized "shadows" passes *only and exclusively only* through their common Platonic source. Which is why there is no global time parameter in GR (read [Karel Kuchar](#)) and GR is intrinsically **quasi-local** theory,

http://www.god-does-not-play-dice.net/Szabados_p31.jpg

I will be happy to elaborate, if you and your colleagues are interested in relativity and quantum mechanics. If you don't care, please don't bother to respond.

Sincerely,

D. Chakalov
chakalov.net

There is no matter as such! All matter originates and exists only by virtue of a force which brings the particles of an atom to vibration and holds this most minute solar system of the atom together. We must assume behind this force the existence of a conscious and intelligent Geist (bewußten intelligenten Geist). This Geist is the matrix of all matter.

Geheimrat Max Planck

=====
Subject: L. Hardy, [arXiv:1608.06940v1 \[gr-qc\]](https://arxiv.org/abs/1608.06940v1), p. 33, "the constraint that probabilities are [between 0 and 1](#)."

Date: Sat, 27 Aug 2016 14:23:22 +0300

Message-ID:

<CAM7Ekxm36qjUZ5PcVDPqgNRMZnSNrRSFxNEZR9nxAyN8wX5kg@mail.gmail.com>

From: Dimi Chakalov <dchakalov@gmail.com>

To: Lucien Hardy <lhardy@perimeterinstitute.ca>

Cc: Andreas <andreas.doering@comlab.ox.ac.uk> ,

Jeremy <jb56@cam.ac.uk> ,

Chris Isham <c.isham@imperial.ac.uk> ,

Cecilia Flori <cflori@perimeterinstitute.ca> ,

Bob Coecke <coecke@comlab.ox.ac.uk> ,

Klaas Landsman <landsman@math.ru.nl> ,

Christian Wuthrich <christian.wuthrich@unige.ch> ,

Helena Granström <helena.granstrom@gmail.com> ,

Helena Granström <helena.granstrom@his.se> ,

Daniel Gottesman <dgottesman@perimeterinstitute.ca> ,

Greg Kuperberg <greg@math.ucdavis.edu> ,

Shude Mao <shude.mao@manchester.ac.uk> ,

Andrew Millis <millis@phys.columbia.edu> ,

Karen Vogtmann <k.vogtmann@warwick.ac.uk> ,

Jennifer Ross <rossj@physics.umass.edu> ,

Renato Renner <renner@phys.ethz.ch> ,

Norbert Straumann <norbert.straumann@gmail.com> ,

Ingemar Bengtsson <ingemar@physto.se> ,

Karel V Kuchar <kuchar@physics.utah.edu> ,

Jose Senovilla <josemm.senovilla@ehu.es> ,

Gian Michele Graf <gian-michele.graf@itp.phys.ethz.ch> ,

Robert M Wald <rmwa@midway.uchicago.edu> ,

Laszlo Szabados <lbszab@rmki.kfki.hu> ,

Adam Helfer <helfera@missouri.edu> ,

Jörg Frauendiener <joergf@maths.otago.ac.nz> ,

Carlo <rovelli.carlo@gmail.com> ,

Robert Geroch <geroch@midway.uchicago.edu> ,

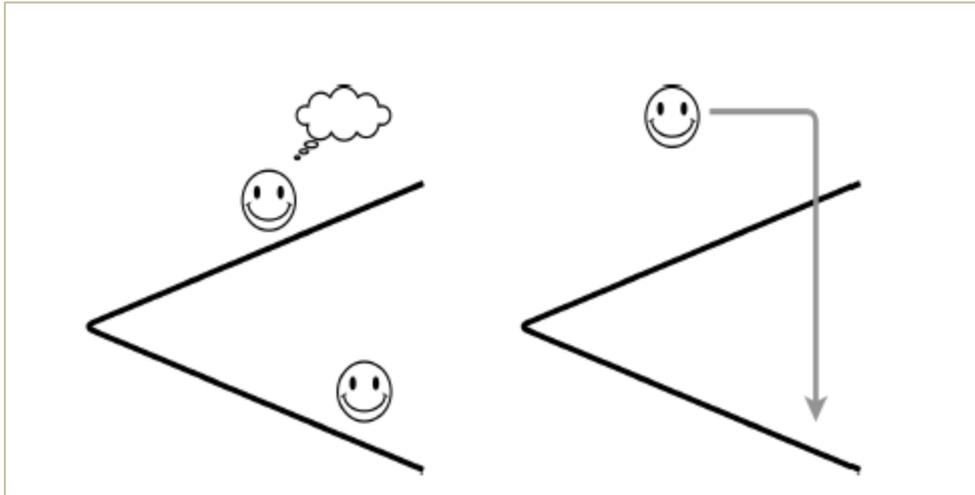
Jean-Pierre Derendinger <derendinger@itp.unibe.ch>

You are again [wrong](#), Lucien. See p. [54](#) in <http://www.god-does-not-play-dice.net/gravity.pdf>

Details at my website below.

D. Chakalov
chakalov.net

=====



Subject: Stephen D. H. Hsu, [arXiv:1511.08881v2 \[quant-ph\]](https://arxiv.org/abs/1511.08881v2), Fig. 1

Date: Mon, 19 Sep 2016 10:48:36 +0000

Message-ID:

<CAM7EkxnzP6uhh5_AN7FYyvcTLJ9YxgsbYFQmmQHP5n3vQA5J7Q@mail.gmail.com>

From: Dimi Chakalov <dchakalov@gmail.com>

To: Stephen Hsu <hsu@msu.edu>

Cc: Karel V Kuchar <kuchar@physics.utah.edu> ,

Steven Avery <savery@msu.edu> ,

Jess Riedel <jessriedel@gmail.com> ,

Brian Pitts <jamesbrianpitts@gmail.com> ,

Jorn Biemans <j.biemans@science.ru.nl> ,

Alessia Platania <alessia.platania@oact.inaf.it> ,

Frank Saueressig <f.saueressig@science.ru.nl> ,

Lars Andersson <laan@aei.mpg.de> ,

Steven Weinberg <weinberg@physics.utexas.edu> ,

Chris Isham <c.isham@imperial.ac.uk>

Dear Dr. Hsu:

Thank you for your professional paper. Regarding the "self" in your Fig. 1, see the facts from 1911 in

http://www.god-does-not-play-dice.net/Fig_8_small.jpg

Once you make a "3+1 split" of a four-dimensional spacetime manifold, resulting in a one-dimensional time manifold parameterizing a "stack" (whatever this means) of three-dimensional spatial manifolds, you are in a dead end. Then all you could do is to retire, like Steven Weinberg and Chris Isham.

More at my website below.

Sincerely,

D. Chakalov
chakalov.net

=====

Subject: In memory of Wolfgang Pauli

Date: Mon, 19 Sep 2016 17:16:30 +0000

Message-ID:

<CAM7EkxnepXXsCfs1NRpWZp4p0ZmDNUPzufgbGFLNYHoQK7ULwA@mail.gmail.com>

From: Dimi Chakalov <dchakalov@gmail.com>

To: Norbert Straumann <norbert.straumann@gmail.com> ,

Monica Colpi <monica.colpi@mib.infn.it> ,

Chia-Fu Yu <chiafu@math.sinica.edu.tw> ,

Dieter Lüst <luest@theorie.physik.uni-muenchen.de> ,

George Lake <george@georgelake.org> ,

George Lake <lake@physik.uzh.ch> ,

Niklas Beisert <nbeisert@itp.phys.ethz.ch> ,

Matthias Gaberdiel <gaberdiel@itp.phys.ethz.ch> ,

Gianni Blatter <blatterj@itp.phys.ethz.ch> ,

Gian Michele Graf <gian-michele.graf@itp.phys.ethz.ch> ,

Renato Renner <renner@phys.ethz.ch> ,

Matthias Troyer <matthias.troyer@itp.phys.ethz.ch> ,

Oded Zilberberg <odedz@phys.ethz.ch> ,

Christian Schaffner <schaffner@esc.ethz.ch> ,

Energy Science Center <info@esc.ethz.ch> ,

MERAC <info@merac.org> ,

Institute of Mathematics Academia Sinica <mathas@math.sinica.edu.tw> ,

Clay Mathematics Institute <president@claymath.org> ,

Isaac Newton Institute for Mathematical Sciences <info@newton.ac.uk> ,

International Mathematical Union <secretary@mathunion.org>

Dear Colleagues,

May I share with you my efforts to understand some of the ideas put forward by Wolfgang Pauli, particularly what he called "eine eigentümliche, klassisch nicht beschreibbaren Art von Zweideutigkeit".

In late 1920s, Wolfgang Pauli was the first to address the gravitational contribution from the zero-point energy of the quantized radiation field, and came to the conclusion that the radius of the universe "could not even reach to the moon" (Norbert Straumann tried to replicate his unpublished calculations in [arXiv:gr-qc/0208027v1](https://arxiv.org/abs/gr-qc/0208027v1), p. 9).

It seems to me that the crux of the problem is known since 1911, thanks to Charles Wilson:

http://www.god-does-not-play-dice.net/Fig_8_small.jpg

My efforts to understand the whole bundle of issues related to quantum gravity and cosmology have brought me into the field of Mathematics, as I believe we need brand new numbers (I called them '[hyperimaginary numbers](#)') to present a different form of reality, known in philosophy as 'res potentia' and acknowledged by many physicists (references available upon request). For if we ignore 'res potentia' (cf. the link to Wilson cloud chamber above) and suggest a "3+1 split" of a four-dimensional spacetime manifold, resulting in a one-dimensional time manifold parameterizing a "[stack](#)" of three-dimensional spatial manifolds, we are in a [dead end](#).

Briefly, I believe we can unravel 'res potentia' viz. the so-called [hyperimaginary numbers](#) in the foundations of Mathematics, keeping in mind Pauli's opinion: "It would be most satisfactory if physics and psyche could be seen as complementary aspects of the same reality" (C.G. Jung and W. Pauli, eds., Synchronicity, Princeton University Press, Bollingen Series, 1973; originally published as Naturerklärung und Psyche, Rascher Verlag, Zurich,

1952). Details in my online paper '[The Spacetime](#)' (available at my website below), where you can find the application of Pauli's opinion to [spacetime engineering](#) (ibid., pp. 34-36).

But again, we need Mathematics. Please let me know if you would be interested, and feel free to pass this email to your colleagues.

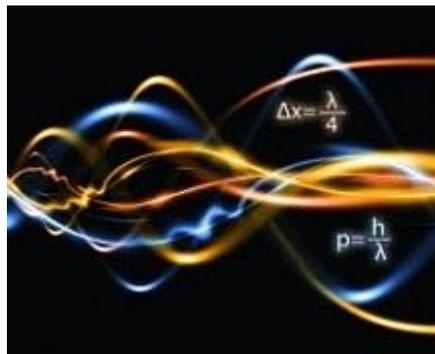
Kind regards,

Dimi Chakalov
chakalov.net

NOTE

Regarding Pauli's "klassisch nicht beschreibbaren Art von Zweideutigkeit" and Cartan's torsion of 1922 (e.g., F.W. Hehl and Y.N. Obukhov, [arXiv:0711.1535v1](#)), see my email and note from 24 May 2016 [above](#) and my note from 3 August 2016 [above](#). In a nutshell, I suggest that the *global* topological and geometric parameters of the spacetime manifold do **not** "propagate" in any way, shape, or form. Namely, the *metric* waves ([GWs](#)) of the entire "school of fish" do not "propagate", but are *global* properties of the spacetime manifold, **bootstrapping** the entire spacetime (school of fish) *en bloc*. Only the **physicalized** corrections to all "fish", produced by their "school of fish", propagate *in time* (see [above](#)). At every instant 'here and now', pertaining to a quantum-gravitational "fish" (e.g., a quantum particle or a cluster of galaxies), the bootstrapping "waves" of metric & torsion are being **completely** eliminated — once-at-a-time, as read with your clock. Check out 'The Spacetime', pp. 34-36.

If the coupling of all [quasi-local "fish"](#) via their "[school of fish](#)" is the *origin* of [inertia](#), as "inertial effects arise from the gravitational field of a moving universe" ([Dennis Sciama](#)), the first thing we need to understand is how the **physicalized** universe propagates *in time*: check out the proposal by Plato, Aristotle, and Heraclitus in '[The Spacetime](#)', and keep in mind the explanations of *res potentia* (potential states) by Werner Heisenberg (*Physics and Philosophy*, 1999, excerpts from p. 43 and pp. 155-156 at [this http URL](#)) and by [Erwin Schrödinger](#).

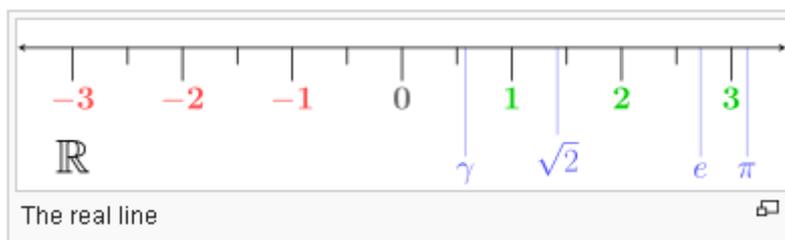


Die Bahn entsteht erst dadurch, daß wir sie beobachten.
(Werner Heisenberg, [23 March 1927](#))

John Wheeler has explained Heisenberg's [potential states](#) (*Die Bahn*) with the game of [Twenty Questions](#) (John and Marry Gribbin, *In Search of Schrödinger's Cat*, 1998, p. 209):

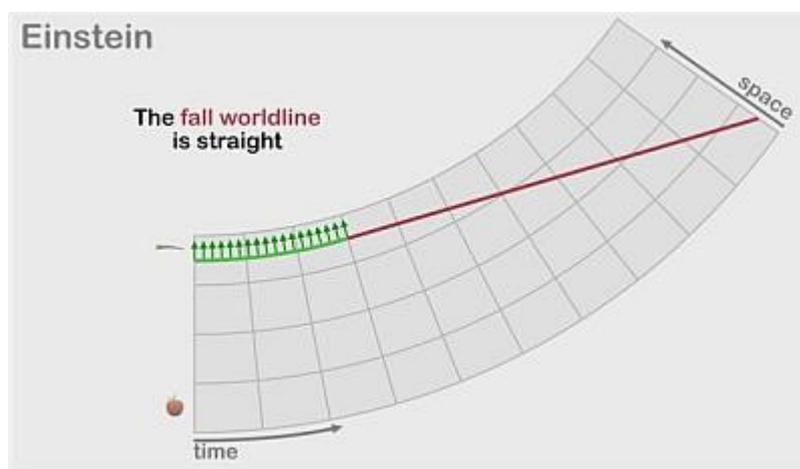
There had been a plot *not* to agree on an object to be guessed, but that each person, when asked, must give a truthful answer concerning some real object that **was** in his mind, and which **was** *consistent with all the answers that had gone before*. With only one question left, John Wheeler guessed: "Is it a cloud?" The answer was "Yes!"

The final answer - [cloud](#) - was consistent and [correlated](#) with all previous answers, but it was **not physicalized** up until the final question, *after* which it became **physicalized** reality (e.g., a quasi-local "[fish](#)"). Prior to the *first* question, all words in English language were *equally possible* to become **physicalized** reality, like the three **physicalized** states of one single quantum particle, triggering water droplets in Wilson cloud chamber [above](#). With respect to a physical clock, all **physicalizable** states are *res potentia* residing in an *atemporal* medium. The latter has only **physical** "footprints" on the points of the [real line](#):



Hence the need for so-called [hyperimaginary numbers](#) with *squared* hyperimaginary unit set to zero at every 4D instant of **physicalized** reality, $|\mathbf{w}|^2 = \mathbf{0}$, such as a "[cloud](#)" or a quasi-local "[fish](#)". This is the lesson from [Wilson cloud chamber: Die Bahn](#) (see [above](#)) is an atemporal *res potentia*. Keep this lesson in mind when you read in QM textbooks about some "parameter" **t** in the [Schrödinger equation](#): **t** is not a "parameter", because it has only fleeting **physical** "footprints" on the [points](#) from the [real line](#). We can observe 4D **physicalized** reality only "after" its [hyperimaginary component](#) **w** has been set to **zero** — once-at-a-time. Check out Plato's proposal, Fig. 5, and ref. [3] in '[The Spacetime](#)'.

Now let's move to gravity: "Spacetime tells matter how to move; matter tells spacetime how to curve" ([John Wheeler](#)). Once the *atemporal* negotiation between matter and spacetime has been completed, we have a kind of distorted 4D spacetime, which many people, including [Einstein](#), consider "curved":



Surely the spacetime distortion (example [below](#)) is real (e.g., [GPS navigation](#) had to be adjusted), but notice that the "curved" picture above is like a **physicalized** "[cloud](#)", and secondly - Einstein's theory of gravity is applicable to physical objects with size not greater than the [Solar System](#) (app. 9×10^9 km), while the **physicalized** universe is many orders of magnitudes larger (app. 9×10^{23} km). Also, gravity is *always* accompanied by rotation, but unlike the [quantum spin](#), we can picture the [axis of rotation](#). Most importantly, the *entire* Universe fixes the [gravity](#) and [inertia](#) at every quasi-local "fish" *via* its quantum-gravitational spacetime: the "[school of fish](#)". To explain how this works, let me recall the story of the grin of the [Cheshire Cat](#) *without* the cat, as explained by [Alice](#) (see below).

At every 4D instant 'here and now', the **physicalized** cat (placed in the right-hand side) has been **already** (Sic!) fixed by *corrections* to its **physical** state, originating from the *atemporal* "[school of fish](#)" — once-at-a-time, as read with a clock. The 'grin of the cat *without* the cat' (placed in the left-hand side) is *res potentia*. Physically, we can only observe **physicalized** cats or **physicalized** "[clouds](#)" or **physicalized** quasi-local "[fish](#)", which have **already** (Sic!) interacted with **itself** at every consecutive instant $|\mathbf{w}|^2 = 0$.



Quantum-gravitational spacetime
(the "[school of fish](#)" is an [empty set](#))



Physicalized universe
(e.g., a quasi-local "[fish](#)")

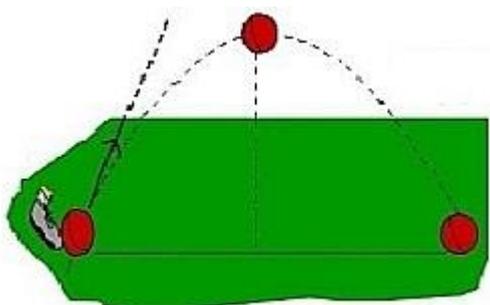
Einstein was fully aware that [only matter can interact with matter](#): differential geometry alone *cannot* produce **work**. He considered the **self-interaction** of matter to be caused by "a total field of as yet unknown structure":

The right side is a formal condensation of all things whose comprehension in the sense of a field-theory is still problematic. Not for a moment, of course, did I doubt that this formulation was merely a makeshift in order to give the general principle of relativity a preliminary closed expression. For it was essentially not anything more than a theory of the gravitational field, which was somewhat artificially isolated from a total field of as yet unknown structure.

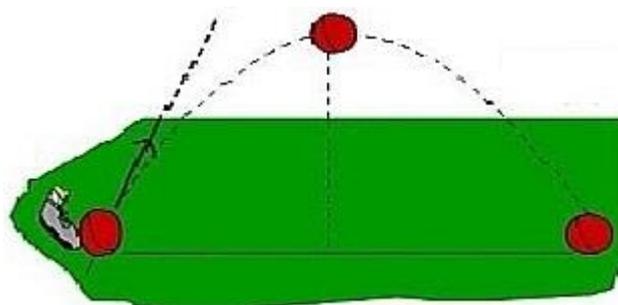
Needless to say, he was right - check out ref. [18] in '[The Spacetime](#)'.

This is a very old and highly emotional (to many people) bundle of issues, which goes back to the discussion of the "[conservation](#)" ([if any](#)) of energy in Einstein's General Relativity (GR), initiated by David Hilbert and Oskar Klein in 1916 (references available upon request). Let me suggest a simple presentation of this 100-year-old controversy.

Consider two cases of kicking a ball: it goes up and then falls on the ground, showing [parabolic trajectories](#), but suppose that in the second case below the football has gained particular **contributions** from [gravitational radiation](#):



No gravitational radiation



Contributions from [gravitational radiation](#)

These **contributions** to the *physical* state of the football (or the *physical* [Cheshire cat](#)) are the source of gravity (everything in the right-hand side of [Einstein field equations](#)), but if we look at the universe at very small and at very large scales, these contributions become [very puzzling](#) – we cannot use the [linearized](#) (and highly perplexing) approximation of gravity, as we did it to adjust the [GPS navigation](#), chiefly because *any* contribution from gravity will break the “[conservation](#)” ([if any](#)) of energy. That is, the [football](#) *itself* could [gain or throw away](#) kinetic energy, or electromagnetic energy, or stresses, or anything from the stuff placed in the right-hand side of [Einstein field equations](#), and if people try to trace back the **source** of such *physicalized* contribution, they will have to call it “[dark](#)”.

Physically, the football [above](#) is **acting on itself**, because the **source** of matter is not matter but *res potentia*, which cannot be *physically* observed **in principle**: at the 4D instant, at which the [football](#) has **acted on itself**, we cannot *in principle* trace back the **source** of the **self-interaction** in its **past** light cone. It is *not* there, since the **source** is *res potentia* which resides *only* in the *potential* future. I have suggested the most general form of *retarded* relativistic causality in January 1990, dubbed *biocausality* (ref. [29] in ‘[The Spacetime](#)’). It unites the physical and [teleological](#) causes, and is applicable to biological, quantum, and gravitational interactions. The idea of *biocausality* is based on the unpublished work by Wolfgang Pauli, who suggested in 1953 that the [teleological](#) cause should be considered as a *complement* to the physical cause, and that there is a third kind of natural laws, apart from deterministic and statistical laws, which consists in correcting the fluctuations of chance by [meaningful coincidences](#) (Die Vorlesung an die fremden Leute, in *Der Pauli-Jung-Dialog und seine Bedeutung für die moderne Wissenschaft*, ed. by Harald Atmanspacher *et al.*, Springer, 1995, S. 317-330) exhibited in Gottfried Leibniz’s [pre-established harmony](#). How else can we explain the [correlations](#) of over 60 trillion synapses in the [human brain](#), the [fine-tuning of the universe](#) and the [anthropic principle](#)?

Let’s go back to [Erwin Schrödinger](#). People acknowledge that “there is in fact no way to define a global energy-momentum vector in a general curved spacetime” and stress that the gravitational “field” can do **work** on matter and **vice versa** ([Wikipedia](#)), but fail to mention Einstein’s “total field of as yet unknown structure” and the debate on his GR, initiated by David Hilbert and Oskar Klein in 1916. And now 95% of the universe is considered “dark” due to “[the worst theoretical prediction in the history of physics!](#)”

Res potentia is not “dark”, ladies and gentlemen. May I quote [Max Planck](#):

There is no matter as such! All matter originates and exists only by virtue of a force which brings the particles of an atom to vibration and holds this most minute solar system of the atom together. We must assume behind this force the existence of a conscious and intelligent Geist (bewußten intelligenten Geist). This Geist is the matrix of all matter.

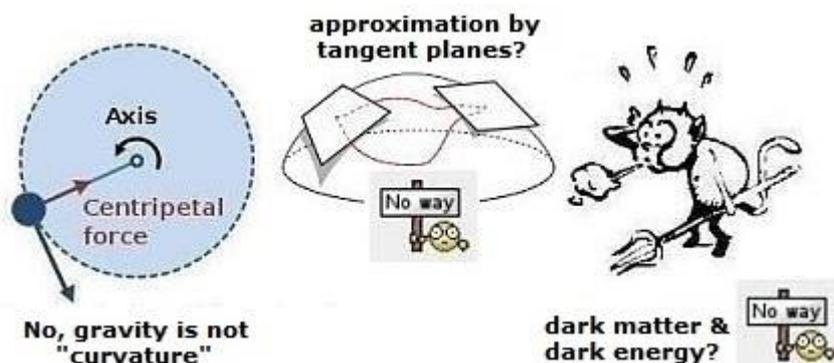
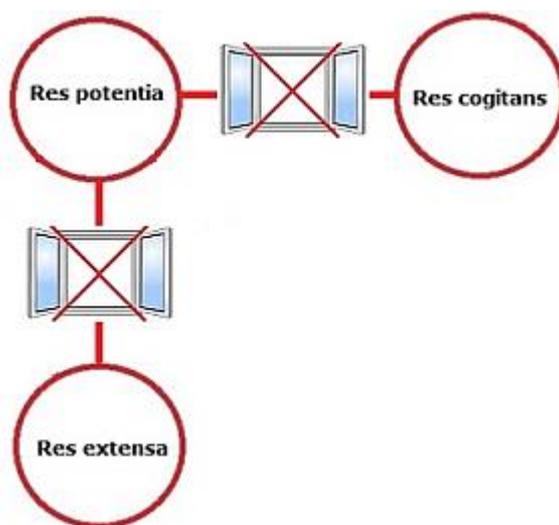
The ‘[matrix of all matter](#)’ is neither physical object (*res extensa*) nor cognitive entity (*res cogitans*), but *res potentia* pertaining to ‘the Universe as ONE’. And since ‘time’ requires ‘change of state’, *res potentia* cannot evolve *in time*, as it includes all its “states” as ONE.

In this sense, *res potentia* is **atemporal**. Metaphorically, it is the entire ‘school of fish’ [above](#). It is also what Aristotle called [First Cause](#) and [Unmoved Mover](#) endowed with **self-action**: *Der Geist bewegt die Materie* (Mens agit at molem, Virgil, *The Aeneid*, VI, [727](#)).

Now look at the drawing [below](#): it shows an *ontological* distinction between *res cogitans* as “bewußten intelligenten Geist” (Max Planck) and *res potentia* pertaining to ‘the Universe as ONE’. Why are they ontologically different? Because *res cogitans* is the [qualia](#) (mental “reflection”) from *res potentia*. They are **not** identical, just like the [qualia](#) we would call in English ‘red’ is **not** identical to light with particular wave length ([620-750 nm](#)). Again, *res cogitans* is the *qualia* from *res potentia*, and the two are ontologically different. But since we cannot **detect** *res potentia* (like we can detect light with different [wave lengths](#)), we “see” the *qualia* from *res potentia* (*res cogitans*) and the *res potentia* itself as superposed into one object, as suggested by Max Planck and Virgil. Yet they are ontologically different.

Wolfgang Pauli could only suggest that "it would be most satisfactory if physics and psyche could be seen as complementary aspects of the same reality" (see [above](#)), as depicted in the drawing below. Also, *res cogitans* does **not** act *directly* on matter ([parapsychology](#)) nor the other way around ([materialism](#)): see Sec. 6, Physical theology, in '[The Spacetime](#)'.

To explain physical theology based on the doctrine of *trialism*, imagine the following situation: you are an Eskimo, and you have never seen and will never see an elephant in your entire life. Yet you can make observations on elephant's trunk by two *complementary* devices measuring either properties of *your* arm or properties of *your* nose. You could never imagine the underlying ONE entity called 'trunk' (*res potentia*), because you can never *understand* 'the ONE'. You may, of course, propose that what *you* see as an "arm" (say, *res cogitans*) is somehow related to *your* "nose" (*res extensa*). True, but again you're an Eskimo and cannot even imagine the underlying 'trunk' (*res potentia*). So what would you do? You just call *res potentia* "[dark](#)" and collect your [Nobel Prize](#). Well, read my mind.



Der Herrgott würfelt nicht!

Don't ever say that you knew nothing about *res potentia* – the true monad without windows (Leibniz, [Monadology §7, 1714](#)). Do we have "windows" on individual quarks? Or "windows" on the [quantum vacuum](#)? Check out Slides **13** and **14** in [DC Slide 1.pdf](#).

D. Chakalov
 September 20, 2016
 Latest update: March 3, 2017

=====
Subject: Re: The 800-pound gorilla in the room
Date: Mon, 26 Sep 2016 11:34:47 +0000
Message-ID:
<CAM7Ekxkrx77hOTcL0oh5BP+HyNjt=J5nOu=yoW2nvMZQsQuLWw@mail.gmail.com>
From: Dimi Chakalov <dchakalov@gmail.com>
To: Zhao-Yan Wu <zhaoyanwu2000@yahoo.com>,
Paul Steinhardt <steinh@princeton.edu>, Xiao Zhang <xzhang@amss.ac.cn>,
Laszlo Szabados <lbszab@rmki.kfki.hu>, George Ellis <gfrellis@gmail.com>,
Adam Helfer <helfera@missouri.edu>, Karel V Kuchar <kuchar@physics.utah.edu>,
Chris Isham <c.isham@imperial.ac.uk>, Hans Ohanian <hohanian@uvm.edu>,
James M Nester <nester@phy.ncu.edu.tw>, Sean Hayward
<sean_a_hayward@yahoo.co.uk>, Jörg Frauendiener <joergf@maths.otago.ac.nz>,
Merced Montesinos Velásquez <merced@fis.cinvestav.mx>, Yuan K Ha
<yuanha@temple.edu>, Norbert Straumann <norbert.straumann@gmail.com>,
William G Unruh <unruh@physics.ubc.ca>, Robert Geroch
<geroch@midway.uchicago.edu>, Robert M Wald <rmwa@midway.uchicago.edu>,
Lindy Divarci <divarci@mpiwg-berlin.mpg.de>,
Jürgen Renn <renn@mpiwg-berlin.mpg.de>, George Lake <lake@physik.uzh.ch>,
Niklas Beisert <nbeisert@itp.phys.ethz.ch>, Matthias Gaberdiel
<gaberdiel@itp.phys.ethz.ch>, Gianni Blatter <blatterj@itp.phys.ethz.ch>,
Gian Michele Graf <gian-michele.graf@itp.phys.ethz.ch>, Renato Renner
<renner@phys.ethz.ch>, Matthias Troyer <matthias.troyer@itp.phys.ethz.ch>,
Oded Zilberberg <odedz@phys.ethz.ch>, Christian Schaffner <schaffner@esc.ethz.ch>,
Energy Science Center <info@esc.ethz.ch>, MERAC <info@merac.org>

Dear Colleagues,

Check out [pp. 59-64](#) in
<http://www.god-does-not-play-dice.net/gravity.pdf>

Sincerely,

D. Chakalov
chakalov.net

On Sun, 5 Jun 2016 14:01:30 +0300, Dimi Chakalov <dchakalov@gmail.com> wrote:
>
> Dear Dr. Wu:
>
> Thank you for your paper 'Gravitational Energy-Momentum and
> Conservation of Energy-Momentum in General Relativity', Commun.
> Theor. Phys. 65 (2016) [716-730](#).
>
>> Everyone's comments are appreciated.
>
> May I offer my comments.
[snip]

=====

Subject: Causal Horizons

Date: Wed, 28 Sep 2016 16:46:22 +0000

Message-ID:

<CAM7EkxmihNT6LLyN7f+QyczroqcVDqBT=MFCQegMxONiRBOOrZw@mail.gmail.com>

From: Dimi Chakalov <dchakalov@gmail.com>

To: Erik Curiel <erik@strangebeautiful.com> ,

Silke <silke.weinfurtner@nottingham.ac.uk> ,

Eli <elياهو.cohen@bristol.ac.uk> ,

Ralf <ralf.schuetzhold@uni-due.de> ,

Karim <karim.thebault@bristol.ac.uk> ,

Bill <unruh@physics.ubc.ca>

Cc: Hamish Johnston <hamish.johnston@iop.org> ,

Hartmann Römer <hartmann.roemer@physik.uni-freiburg.de> ,

Stephan Hartmann <s.hartmann@lmu.de> ,

David B Malament <dmalamen@uci.edu> ,

Jörg Frauendiener <joergf@maths.otago.ac.nz> ,

Laszlo Szabados <lbszab@rmki.kfki.hu> ,

Adam Helfer <helfera@missouri.edu> ,

Thomas Filk <Filk@physik.uni-freiburg.de> ,

Robert Geroch <geroch@midway.uchicago.edu> ,

Richard M Schoen <schoen@math.stanford.edu> ,

R Penrose <penroad@wadh.ox.ac.uk>

Dear Colleagues,

Please check out my note on causal horizons on [p. 66](http://www.god-does-not-play-dice.net/gravity.pdf) in <http://www.god-does-not-play-dice.net/gravity.pdf>

Let me know if you'd be interested.

All the best,

Dimi

--

D. Chakalov

chakalov.net

On Tue, Sep 27, 2016 at 3:32 PM, Dimi Chakalov <dchakalov@gmail.com> wrote:

>

> Dear Erik,

>

> I would like to attend 'Quantum Foundation and the Problem of Time II:

> Causal Horizons in Physics' in Bristol on 11 January 2017, and will be

> happy to join you and your colleagues at the dinner.

>

> Please let me know if I can deliver a talk on causal horizons -- see

> pp. 59-64 in

> <http://www.god-does-not-play-dice.net/gravity.pdf>

>

> All the best,

>

> Dimi

> --

> D. Chakalov

> chakalov.net

NOTE

Nearly twenty-seven years ago, in January 1990, I suggested the most general case of causality, dubbed *biocausality* (see [above](#)). It requires brand new, at least to current mathematical relativity, causal horizons fixed by *res potentia*, and I will be more than happy to attend the workshop on causal horizons in Bristol on 11 January 2017. However, when I learned about this workshop on 27 September 2016, the [list of six speakers](#) was already fixed, so all I can do here is to outline the fundamental, and still unresolved, problems with 'causal horizons', starting with the so-called "conformal completion" recipe by Roger Penrose, published on [15 January 1963](#). I consider it *Penrose-Norris* proposal, due to the invaluable contribution to Penrose's ideas by Prof. Dr. rer. nat. Chuck Norris:

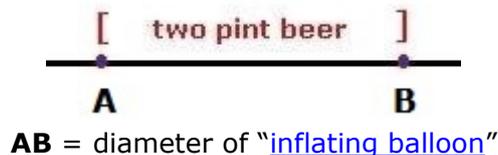
http://www.god-does-not-play-dice.net/Penrose_omega_zero.jpg

http://www.god-does-not-play-dice.net/Chuck_Norris.jpg

Physically, the Penrose-Norris proposal cannot work, because you must also install GW "mirrors" **exactly** at null-and-spacelike infinity (see [above](#)). Mathematically, their proposal cannot work either, because you cannot define the ideal end-points at which you must install those GW "mirrors". Let me be a bit more specific.

To avoid any unphysical "ambient" medium acting as a *cutoff* for causal horizons, people address the task "intrinsically", trying to define the *entire* spacetime and its causal horizons by applying the [\(\$\epsilon, \delta\$ \)-definition of limit](#), as explained by a bartender:

An infinite ([actual infinity](#)) crowd of mathematicians enters a bar. The first one orders a pint, the second one a half pint, the third one a quarter pint... — "I understand", says the bartender — and pours two pints.



The two end-points, **A** and **B**, would fix the causal horizons, provided you can define them **mathematically**. Only you can't, because you may use either closed intervals [**AB**] or open intervals (**AB**) — *tertium non datur*. In the first case you would avoid any unphysical "ambient" medium acting as a cutoff for causal horizons, but will inevitably run out of points at [**AB**], like the alleged '[geodesic incompleteness](#)'. If you choose an open diameter of "inflating balloon" (**AB**), you will *never* run out of points, because some unphysical "ambient" medium will be *patiently* waiting for the spacetime to expand into it. Either way, you will need some Biblical "miracles" to make it work, just like the so-called [GW150914](#).

Which is why the only available solution is '[biocausality](#)' and new causal horizons fixed by [res potentia](#). All spacetime points have identical status: infinitely many ([actual infinity](#)) *instantaneous* multiplications of one and the same interface 'here and now', resulting in infinitely many ([actual infinity](#)) three-dimensional spatial manifolds stacked "**sideways**", along [space-like directions](#). Such *now-at-a-distance* absolute frame cannot be detected due to the so-called [speed of light](#). Thanks to the fundamental *flow of events* ([Heraclitus](#)) modeled with [biocausality](#), all intervals in such *emergent re-created physicalized* spacetime are both [closed] and (open): see Fig. **7** and p. **35** (Finite Infinity) in '[The Spacetime](#)'. Hence the Universe has *dual age* — once created ([John 1:1](#); [1 John 4:8](#)), it is *already* eternal and can never reach its Beginning & End residing inside us ([Luke 17:21](#)).

D. Chakalov

September 29, 2016

Latest update: October 4, 2016

=====
Subject: Re: Are you interested in GR "miracles" ?

Date: Thu, 29 Sep 2016 10:48:07 +0000

Message-ID:

<CAM7Ekx=bMHXGSano7M79cKrYNVjGrw_y1iZKDZtNSouembRyCw@mail.gmail.com>

From: Dimi Chakalov <dchakalov@gmail.com>

To: Steven Weinberg <weinberg@physics.utexas.edu>, Steven Weinstein <sw@uwaterloo.ca>, Alan J Weinstein <ajw@caltech.edu>, Richard Price <rprice.physics@gmail.com>, Josh Goldberg <goldberg@phy.syr.edu>, Ronald J Adler <gyreron@gmail.com>, Karel V Kuchar <kuchar@physics.utah.edu>, Andrzej Mariusz Trautman <amt@fuw.edu.pl>, Kip <kip@tapir.caltech.edu>, Bruce Allen <bruce.allen@aei.mpg.de>, Luciano <rezzolla@th.physik.uni-frankfurt.de>, Gary Horowitz <gary@physics.ucsb.edu>, David Garfinkle <garfinkl@oakland.edu>, Rainer Weiss <weiss@ligo.mit.edu>, Alessandra Buonanno <buonanno@physics.umd.edu>, Gabriela González <gonzalez@lsu.edu>, Charles Torre <charles.torre@usu.edu>, Chris Isham <c.isham@imperial.ac.uk>, Norbert Straumann <norbert.straumann@gmail.com>, Yuan K Ha <yuanha@temple.edu>, Daniel Kennefick <danielk@uark.edu>, Luca Bombelli <luca@phy.olemiss.edu>, Michele Maggiore <michele.maggiore@unige.ch>, Gerard Auger <auger@apc.univ-paris7.fr>, Eric Plagnol <plagnol@apc.univ-paris7.fr>, Antoine Petiteau <antoine.petiteau@apc.univ-paris7.fr>, Alexandre Le Tiec <letiec@obspm.fr>, Jerome Novak <Jerome.Novak@obspm.fr>, Thibault Damour <damour@ihes.fr>, Luc Blanchet <blanchet@iap.fr>, Alain Blanchard <alain.blanchard@ast.obs-mip.fr>, Jean-Philippe Uzan <uzan@iap.fr>, Lukas <lukas.ifsits@univie.ac.at>, Piotr <piotr.chrusciel@univie.ac.at>, Sergiu Klainerman <seri@math.princeton.edu>, Sascha Husa <sascha.husa@gmail.com>, Robert Beig <robert.beig@univie.ac.at>, Jörg Frauendiener <joergf@maths.otago.ac.nz>, Laszlo Szabados <lbszab@rmki.kfki.hu>, Adam Helfer <helfera@missouri.edu>, Greg Galloway <galloway@math.miami.edu>, John Baez <baez@math.ucr.edu>, Paul Tod <tod@maths.ox.ac.uk>, Domenico Giulini <giulini@itp.uni-hannover.de>, Jose Geraldo Pereira <jpereira@ift.unesp.br>, Robert Geroch <geroch@midway.uchicago.edu>, Demetrios Christodoulou <demetri@math.ethz.ch>, George Ellis <gfrellis@gmail.com>, Gian Michele Graf <gian-michele.graf@itp.phys.ethz.ch>, Helmut Friedrich <hef@aei.mpg.de>, John Stachel <john.stachel@gmail.com>, Ettore Minguzzi <ettore.minguzzi@unifi.it>, Lars Andersson <laan@aei.mpg.de>, Ezra Newman <newman@pitt.edu>, Christian Pfeifer <christian.pfeifer@itp.uni-hannover.de>, Sascha Husa <sascha.husa@uib.es>, Alan Rendall <rendall@uni-mainz.de>, Saul Teukolsky <saul@astro.cornell.edu>, Niall Murchadha <niall@ucc.ie>, Bernard Schutz <Bernard.Schutz@aei.mpg.de>, Ericourgoulhon <eric.gourgoulhon@obspm.fr>, David B Malament <dmalamen@uci.edu>, Xiao Zhang <xzhang@amss.ac.cn>, Mu-Tao Wang <mtwang@math.columbia.edu>, Christian Wuthrich <beyondspacetimeseminar@gmail.com>, Zhaoyan Wu <zhaoyanwu2000@yahoo.com>, Takashi Nakamura <takashi@tap.scphys.kyoto-u.ac.jp>, Hiroyuki Nakano <hinakano@yukawa.kyoto-u.ac.jp>, Tomoya Kinugawa <kinugawa@tap.scphys.kyoto-u.ac.jp>, Tetsuya Shiromizu <shiromizu@math.nagoya-u.ac.jp>, Tatsuya Matsumoto <matsumoto@tap.scphys.kyoto-u.ac.jp>, Avneet <avneet.singh@aei.mpg.de>, Maria Alessandra Papa <maria.alessandra.papa@aei.mpg.de>, Heinz-Bernd Eggenstein <heinz-bernd.eggenstein@aei.mpg.de>, Emanuele <berti@wugrav.wustl.edu>, Clifford Will <cmw@wuphys.wustl.edu>, William G Unruh <unruh@physics.ubc.ca>, David Shoemaker <dhs@mit.edu>, Stan Whitcomb <stan.whitcomb@ligo.org>, Stefano Vitale <vitale@science.unitn.it>, Deirdre Shoemaker <deirdre.shoemaker@physics.gatech.edu>, Remo <ruffini@icra.it>, C Y Lo <chungy.lo@gmail.com>, Jose Rodriguez <jose.rodriguez2@correo.uis.edu.co>, Jorge Rueda <jorge.rueda@icra.it>, Nigel <n.bishop@ru.ac.za>, Rosalba Perna <rosalba.perna@stonybrook.edu>, Abraham Loeb <aloeb@cfa.harvard.edu>, Valerie Connaughton <valerie@nasa.gov>, abbot_b@ligo.caltech.edu, anderson_s@ligo.caltech.edu, barish_b@ligo.caltech.edu, sarah.gossan@tapir.caltech.edu, gustafson_e@ligo.caltech.edu, JulieHiroto LIGO <jhiroto@ligo.caltech.edu>, Kenneth Libbrecht <kglib@caltech.edu>, Bob Taylor <taylor_r@ligo.caltech.edu>, yamamoto_h@ligo.caltech.edu, zweizig_j@ligo.caltech.edu,

swang5@caltech.edu, zhang_l@ligo.caltech.edu, Mike <zucker_m@ligo.mit.edu>, Joan Centrella <joan.centrella@nasa.gov>, Marco <marco.drago@aei.mpg.de>, Adrian Cho <acho@aaas.org>, Mark Hannam <markodh@googlemail.com>, Pedro Marronetti <pmarrone@nsf.gov>, Lee Samuel Finn <lsfinn@psu.edu>, Beverly Berger <grgsocietymail@gmail.com>, César García Marirrodriga <Cesar.Garcia@esa.int>, Paul McNamara <paul.mcnamara@esa.int>, Ian Harrison <ian.harrison@esa.int>, Damien Texier <contactesa@esa.int>, Charles Dunn <Charles.E.Dunn@jpl.nasa.gov>, Gustav <g.holzegel@imperial.ac.uk>, Jean-Pierre Bourguignon <jpb@ihes.fr>, Mike Cruise <a.m.cruise@bham.ac.uk>, Dieter R Brill <brill@umd.edu>

P.S. Check out the Penrose-Norris proposal on [p. 67](#) in <http://www.god-does-not-play-dice.net/gravity.pdf>

D. Chakalov
chakalov.net

On Sat, 23 Jul 2016 13:54:55 +0000, Dimi Chakalov <dchakalov@gmail.com> wrote:
[snip]

NOTE

The initial email to my 118 opponents [above](#) was sent ten weeks ago, on [23 July 2016](#). Nobody replied so far, not even by acknowledging my P.S. note from [29 September 2016](#). Obviously, these people are not interested in [Einstein's unfinished project](#) but prefer GR "miracles", such as [GW150914](#).

There is no gravity in the quantum world. Gravity belongs to the macroscopic world, from the nanoscale ([100 nanometers](#)) to the astronomical large-scale structures (8.8×10^{26} m). Again, Einstein's theory of gravity is applicable to objects with size not larger than the Solar System (10^{13} m), so we cannot extrapolate his [unfinished theory of gravity](#) to the observable, 10^{13} times larger universe. Most importantly, the phenomenon producing gravity in the *entire* macroscopic world has different presentations in the [quantum world](#) and in the living world (e.g., the [human brain](#)), like a melody played with three different instruments. This phenomenon is known for centuries: [res potentia](#). It can trace our road to [quantum gravity](#) and [spacetime engineering](#). It is our [future](#).

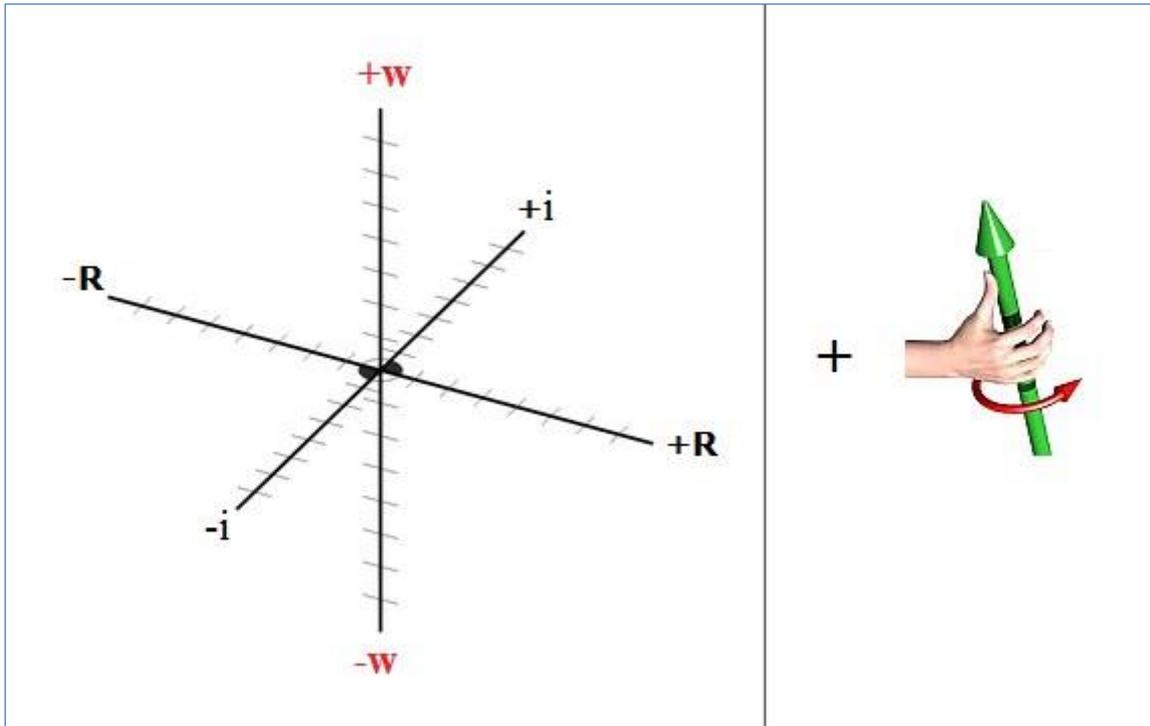
If you are mathematician and wish to understand [res potentia](#), check out the two temporal "vectors", called "past pointing" and "future pointing", in the current model of relativistic causality [here](#), and try to find their *physical* origin in the [orthodox model of spacetime](#), leading to infinitesimal displacement: $t \rightarrow t+dt$. No way.

The origin of spacetime is *res potentia* as Unmoved Mover ([Aristotle](#)). It produces **work** in the [human brain](#) as well, yet it is not located in the brain nor anywhere else in the physical world ([res extensa](#)): see Plato, Fig. **5** in '[The Spacetime](#)'.

The new [hyperimaginary numbers](#) along axis **w** (ref. [**3**] in '[The Spacetime](#)') are depicted in the last drawing below. Notice the topological property of spacetime, called '[spin](#)'.

To understand the importance of imaginary numbers, see Chen Ning Yang, [p. 54](#) (ref. [**36**] in '[The Spacetime](#)'). *Res potentia* is like an **intact hyperimaginary "trunk"**, which is neither "particle" nor "[wave](#)", cannot "collapse" nor "[decohere](#)", and is not "uncertain" but flexible: God casts the die, not the dice (Einstein).

Mathematically, [res potentia](#) belongs to the right-hand side of a new [evolution equation](#) (Eq. **3**, pp. 24-25 in [rs spacetime.pdf](#)), which is still in symbolic form. This symbolic equation is the crux of physical theology (Sec. **6** in '[The Spacetime](#)'), based on [John 1:1](#).



All we need is [Mathematics](#). Details at my [website](#).

D. Chakalov
 September 30, 2016
 Latest update: October 14, 2016, 09:42 GMT

=====

Subject: Re: M.Almendro. New article JPP and new working in amazon
 Date: Sat, 29 Oct 2016 13:05:40 +0000
 Message-ID:
 <CAM7Ekxk4DuTBwYsoSZgTL_vPUDQPsFTj4Hy23YcWMnVWVFmA@mail.gmail.com>
 From: Dimi Chakalov <dchakalov@gmail.com>
 To: Almen <almen@oxigeme.com>,
 Elena López Suárez <elena_lopez@gse.harvard.edu>
 Cc: [snip]

Dear colleagues,

Thank you for your very intriguing article 'Beyond Frontiers:
 Meditative Practice, Clinical Practice and Scientific Research',
 J Psychol Psychother 6, 281 (2016).

I think the puzzle of 'mind emptiness' refers to the Law of Reversed
 Effort: when the mind is still, the universe surrenders (Lau-Tzu). If
 you are interested in quantum cosmology, check out

http://www.god-does-not-play-dice.net/hi_numbers.pdf

More at my website below.

Kind regards,

Dimi Chakalov
chakalov.net

On Sat, Oct 29, 2016 at 12:13 PM, Almen <almen@oxigeme.com> wrote:
[snip]

=====

Subject: Request for paper
Date: Mon, 31 Oct 2016 17:59:16 +0000
Message-ID:
<CAM7EkxkCyOoxjCFO9tct=UJjc8BOUW5RgftXEsTruz9ZdRi=1A@mail.gmail.com>
From: Dimi Chakalov <dchakalov@gmail.com>
To: James M Nester <nester@phy.ncu.edu.tw>
Cc: [snip]

Dear James:

If possible, please send me a copy from

J. M. Nester, Gravitational Energy, in Gravitation and Astrophysics, Proceedings of the 9th Asia-Pacific International Conference, Eds. J. Luo, Z.-B. Zhou, H. C. Yeh and J. P. Hsu (World Scientific, Singapore, 2010) pp 193-212.

My understanding of the non-localizable gravitational energy and its non-linear transport of energy is explained in the last paragraph on p. 3 in

http://www.god-does-not-play-dice.net/hi_numbers.pdf
(6 pages, 31.10.2016)

BTW you recently wrote ([arXiv:1610.08803v1](https://arxiv.org/abs/1610.08803v1), p. 24) that "detectors based on interferometry could work, since they do not depend on absorbing energy, they directly detect changes in length." I disagree with some GR ghost that could miraculously evoke "pure" changes in length:

http://www.god-does-not-play-dice.net/gw_miracles.pdf

But again, I hope to understand your Hamiltonian boundary approach, particularly how you would *avoid* installing mirrors for GWs. I will study your paper thoroughly, because the alleged "closed 2-surface" (Laszlo Szabados, ref. [194] in [arXiv:1610.08803v1](https://arxiv.org/abs/1610.08803v1)) does not work, not to mention the speculations by Demetrios Christodoulou (ref. [59] in [arXiv:1610.08803v1](https://arxiv.org/abs/1610.08803v1)).

All the best,

Dimi
--
D. Chakalov
chakalov.net

Subject: Re: Netiquette
Date: Mon, 7 Nov 2016 14:24:48 +0000
Message-ID:
<CAM7EkxnkqEgJLda+vMvjxbwtULJkbGoynEWwpxnU0jGj0ytiAw@mail.gmail.com>
From: Dimi Chakalov <dchakalov@gmail.com>
To: Jeremy Dunning-Davies <J.Dunning-Davies@hull.ac.uk>

Dear Jeremy,

Thank you for your feedback on '[Hyperimaginary Numbers](#)'.

> Considering some of the content, the reference below may
> be of interest to you.
> "A consideration of the possibility of negative mass"
> Il Nuovo Cimento 110B (1995) 857
> (with D.Pollard)

Thank you, I know it very well. Your ref. [7] is my favorite book by
Yakov Terletsy - see his drawing from Ch. VI, § 25 at
<http://www.god-does-not-play-dice.net/Terletsy.jpg>

I hope you noticed my evolution equation, now in viXra:1611.0084v1,
<http://vixra.org/abs/1611.0084>

At the end of the day, I hope to explain the "localization" of gravity
and offer some hints to spacetime engineering, such as
http://www.god-does-not-play-dice.net/spacetime_engineering.jpg

Needless to say, I always follow 'the two rules for success':
Rule #1: Never tell them everything you know.

Hope all is well with you, too.

Best wishes,

Dimi

--

D. Chakalov
chakalov.net

=====

Subject: The elephant in Steven Weinberg's living room
Date: Tue, 8 Nov 2016 14:41:50 +0000
Message-ID:
<CAM7EkxmxxbEi0x6YJgk5oW_cX5HRbNkPFVURSOdnnMfggvqig@mail.gmail.com>
From: Dimi Chakalov <dchakalov@gmail.com>
To: Tom <tsiegfried@nasw.org>, Steven Weinberg <weinberg@physics.utexas.edu>,
Chris Fuchs <cfuchs@perimeterinstitute.ca>, Jennifer Ouellette <JenLuc@gmail.com>,
bush@math.mit.edu, mps@simonsfoundation.org, lectures@simonsfoundation.org,
mpaf@kitp.ucsb.edu, senthil@mit.edu, globalbrain@simonsfoundation.org

<https://www.sciencenews.org/blog/context/why-quantum-mechanics-might-need-overhaul>

--

Don't believe Steven Weinberg, ever. Check out
http://www.god-does-not-play-dice.net/Fig_8_small.jpg

Explanation at
http://www.god-does-not-play-dice.net/hi_numbers.pdf

More at my website.

D. Chakalov
chakalov.net

=====

Subject: Re: Red herrings by H. Dieter Zeh et al.
Date: Sun, 13 Nov 2016 00:35:52 +0000
Message-ID: <CAM7EkxmAgwZ6hLf-
+R5_4U1RhJivBizqmsAquiJUVuYrZ3S1mA@mail.gmail.com>
From: Dimi Chakalov <dchakalov@gmail.com>
To: H D Zeh <zeh@uni-heidelberg.de>, Erich Joos <physics@erichjoos.de>,
Erich Joos <ej@erichjoos.de>, Carsten.Balleier@dfg.de,
Andreas.Deschner@dfg.de, Frank.Kiefer@dfg.de,
Johanna.Kowol-Santen@dfg.de, Stefan Krückeberg <Stefan.Krueckeberg@dfg.de>,
Bernhard Milow <bernhard.milow@dlr.de>, Claus Kiefer <kiefer@thp.uni-koeln.de>,
Domenico Giulini <giulini@itp.uni-hannover.de>, Hermann Nicolai <nicolai@aei.mpg.de>,
Steve Adler <adler@ias.edu>, Chris Isham <c.isham@imperial.ac.uk>,
Wojciech Hubert Zurek <whzurek@gmail.com>, Helmut Friedrich <hef@aei.mpg.de>,
Theory Department CERN <th-unit-secretariat@cern.ch>,
cedric.delaunay@cern.ch, Gian Francesco Giudice <Gian.Giudice@cern.ch>,
Oliver Buchmueller <Oliver.Buchmueller@cern.ch>, Jean-Pierre.Delahaye@cern.ch,
Jurgen.Schukraft@cern.ch, JAMES.WELLS@cern.ch, Andrea.Thamm@cern.ch,
Ivo <ivo.van.vulpen@nikhef.nl>, Georgi Dvali <GEORGI.DVALI@cern.ch>,
rolf.heuer@cern.ch, Fabiola Gianotti <Fabiola.Gianotti@cern.ch>,
Ignatios Antoniadis <antoniadis@itp.unibe.ch>, george.zoupanos@cern.ch,
Joseph Incandela <joseph.incandela@cern.ch>, Geraldine.Servant@cern.ch,
Susanne Reffert <susanne.reffert@cern.ch>, Sergio.Bertolucci@cern.ch,
Philippe.Bloch@cern.ch, Anne-Marie.Perrin@cern.ch, Arnaud.Marsollier@cern.ch,
Julien.Lesgourgues@cern.ch, James Gillies <James.Gillies@cern.ch>,
Richard.Brenner@cern.ch, gilad.perez@cern.ch, Dave Charlton <dave.charlton@cern.ch>,
christian.thomas.byrnes@cern.ch, Gian Michele Graf <gian-
michele.graf@itp.phys.ethz.ch>,
Jean-Pierre Derendinger <derendinger@itp.unibe.ch>,
Henk van Elst <hvanelst@karlshochschule.de>,
Ghirardi Giancarlo <ghirardi@ictp.it>,
Roger Penrose <rouse@maths.ox.ac.uk>,
IGUS Jim <hartle@physics.ucsb.edu>

P.S. Check out
https://www.youtube.com/watch?v=vKEwT_0Pk4k

D. Chakalov
chakalov.net

On Sat, 10 Oct 2015 15:01:39 +0300, Dimi Chakalov <dchakalov@gmail.com> wrote:
>

> The Emperor has no cloths, Dieter. Get real. And professional, as much
> as you can.
>
> I extend this gentle suggestion to all your colleagues.
>
> Check out the most widely known, ever since 1911, public secret in
> theoretical physics:
>
> http://www.god-does-not-play-dice.net/Fig_8_small.jpg
>
> Your poetic expression "classical behavior in quantum mechanical
> terms" [Ref. 1] and explanation of "decoherence" as "unavoidable
> entanglement with the environment (that defines the true border line
> (Sic! - D.C.) between micro- and macrophysics)" [Ref. 2] are red
> herrings: see the link above.
>
> You cannot apply Ehrenfest theorem which "formally connect the time
> dependence of mean values of canonically conjugate observables with
> the Hamilton equations of classical mechanics" [Ref. 3]: see the link
> above. The "time parameter" in Schrödinger's equation does not refer
> to some "background Newtonian time" [Ref. 4] either: see the link
> above.
>
> You and all your colleagues are persistently ignoring the basic facts
> stressed by Schrödinger and Heisenberg: see p. 2 and refs. [7], [8],
> [9], and [29] in Paper I at
>
> http://www.god-does-not-play-dice.net/rs_spacetime.pdf
>
> You and Erich should send back all money (in euros) to Deutsche
> Forschungsgemeinschaft (DFG), which supported your 1985 essay
> [Ref. 3], and get professional, as much as you can.
>
> Your CERN colleagues should immediately stop wasting taxpayers'
> money for their "Higgs boson" and get professional, as much as they can.
>
> Nobody, all your colleagues included, should ignore the facts known since
> 1911.
>
> Enough is enough,
> http://www.god-does-not-play-dice.net/rs_spacetime.txt
>
> D. Chakalov
> chakalov.net
>
> ----
> [Ref. 1] H. Dieter Zeh, Comment on decoherence by time dilation,
> arXiv:1510.02239v1 [quant-ph], p. 1.
>
> [Ref. 2] H. Dieter Zeh, The strange (hi)story of particles and waves,
> arXiv:1304.1003v14 [physics.hist-ph], p. 15.
>
> [Ref. 3] E. Joos and H.D. Zeh, The emergence of classical properties
> through interaction with the environment, Z. Phys. B - Condensed
> Matter 59, 223-243 (1985), p. 237.
>
> [Ref. 4] C.J. Isham, Prima Facie Questions in Quantum Gravity,
> arXiv:gr-qc/9310031v1, p. 14

Subject: Netiquette

Date: Sun, 27 Nov 2016 17:26:34 +0000

Message-ID:

<CAM7EkxkEkeHf1TS+No2FshqerkrrevfHri7XQFbrL6dF4je4Fw@mail.gmail.com>

From: Dimi Chakalov <dchakalov@gmail.com>

To: Peter W Milonni <peter_milonni@comcast.net>

Cc: Chris Isham <c.isham@imperial.ac.uk>,
Karel V Kuchar <kuchar@physics.utah.edu>,
William G Unruh <unruh@physics.ubc.ca>,
Norbert Straumann <norbert.straumann@gmail.com>,
Gian Michele Graf <gian-michele.graf@itp.phys.ethz.ch>,
George Lake <lake@physik.uzh.ch>,
Niklas Beisert <nbeisert@itp.phys.ethz.ch>,
Matthias Gaberdiel <gaberdiel@itp.phys.ethz.ch>,
Gianni Blatter <blatterj@itp.phys.ethz.ch>,
Renato Renner <renner@phys.ethz.ch>,
Matthias Troyer <matthias.troyer@itp.phys.ethz.ch>,
Oded Zilberberg <odedz@phys.ethz.ch>,
Christian Schaffner <schaffner@esc.ethz.ch>,
Energy Science Center <info@esc.ethz.ch>,
MERAC <info@merac.org>,
Paul Scherrer Institut <info@psi.ch>

Peter:

I quoted your 'free field' (attached) in
<http://vixra.org/pdf/1611.0084v7.pdf>
(18 pages, 27.11.2016)

Back in March 1994, I sent a research proposal to U.S. DoE, based on your 1993 monograph and a simple experiment you can perform with your brain (p. 2 in [1611.0084v7.pdf](#)). It was rejected in April 1994 without any explanation by a jerk named Walter M. Polansky.

Thus, I was not able to verify experimentally my theory, which, with the benefit of the hindsight, could have solved ALL energy problems of your country by perfectly ecological and unlimited energy source, called 'free field' (attached). There would be no need to murder hundreds of thousand people in Iraq and Afghanistan, including women and children. There would be no need for 9/11 either,

<https://www.change.org/p/what-could-possibly-evaporate-100-000-tons-of-steel>

You and your colleagues will, of course, keep dead quiet - read my mind.

D. Chakalov
chakalov.net

Attachment:

<http://www.god-does-not-play-dice.net/Milonni.jpg>

Subject: Corrections to Luca Bombelli's website

Date: Tue, 6 Dec 2016 18:26:18 +0000

Message-ID:

<CAM7EkxnXgQC9f6sMxF1_re_0NXjey+Dy2zCu1C7A9X2QonDKew@mail.gmail.com>

From: Dimi Chakalov <dchakalov@gmail.com>

To: Luca Bombelli <luca@phy.olemiss.edu>

Cc: Luca Lusanna <lusanna@fi.infn.it> ,

Ettore Minguzzi <ettore.minguzzi@unifi.it> ,

Alex <afriat@gmail.com> ,

Erik Curiel <erik@strangebeautiful.com> ,

Eric Gourgoulhon <eric.gourgoulhon@obspm.fr> ,

Chris Fewster <chris.fewster@york.ac.uk> ,

Fernando Quevedo <f.quevedo@damtp.cam.ac.uk> ,

Carlos Barceló <carlos@iaa.es> ,

Matt Visser <matt.visser@msor.vuw.ac.nz> ,

George <gfrellis@gmail.com> ,

Karel V Kuchar <kuchar@physics.utah.edu> ,

Chris Isham <c.isham@imperial.ac.uk> ,

Charles Torre <charles.torre@usu.edu> ,

David B Malament <dmalamen@uci.edu> ,

Gary Horowitz <gary@physics.ucsb.edu> ,

Robert M Wald <rmwa@midway.uchicago.edu> ,

Robert Geroch <geroch@midway.uchicago.edu> ,

Greg Galloway <galloway@math.miami.edu> ,

Jeffrey Winicour <winicour@pitt.edu> ,

Paul Tod <tod@maths.ox.ac.uk> ,

Ted Jacobson <jacobson@umd.edu> ,

Ted <newman@pitt.edu> ,

Piotr T Chrusciel <piotr.chrusciel@univie.ac.at> ,

Robert Beig <robert.beig@univie.ac.at> ,

Domenico Giulini <giulini@itp.uni-hannover.de> ,

Richard M Schoen <schoen@math.stanford.edu> ,

Sergiu Klainerman <seri@math.princeton.edu> ,

Sean Hayward <sean_a_hayward@yahoo.co.uk> ,

Jose M M Senovilla <josemm.senovilla@ehu.es> ,

Niall Murchadha <niall@ucc.ie> ,

William G Unruh <unruh@physics.ubc.ca> ,

Paul Davies <deephthought@asu.edu> ,

Paul Steinhardt <steinh@princeton.edu> ,

Jeremiah P Ostriker <ostriker@princeton.edu> ,

Xiao Zhang <xzhang@amss.ac.cn> ,

Zhaoyan Wu <zhaoyanwu2000@yahoo.com> ,

Roger Penrose <penroad@wadh.ox.ac.uk>

Ciao Luka,

Many years ago, I asked you, very politely indeed, to correct the reference to my website, which is still in the section "for people interested in other points of view on some of the topics covered here".

Just one example: Do you know the energy conditions?

<http://strangebeautiful.com/papers/curiel-primer-energy-conds.pdf>

These energy conditions are produced by particular 'matrix': see, for example, Fig. **1**, p. **3** in 'Hyperimaginary Numbers' at

http://www.god-does-not-play-dice.net/hi_numbers.pdf

(20 pages, 14:19:00 GMT, 5 December 2016)

Currently, you and all your colleagues have postulated these energy conditions by hand. Worst of all, you and your colleagues do not acknowledge the bold fact that, if even *one* of these conditions is violated, you all, including your website, are in deep murky waters. And yes, "the SEC is violated on cosmological scales right now!" (Carlos Barcelo and Matt Visser, Twilight for the energy conditions? [arXiv:gr-qc/0205066v1](http://arxiv.org/abs/gr-qc/0205066v1), p. 2).

Thus, you and all your colleagues need the 'matrix' for energy conditions: see the link above.

Please let me know when you correct your website and provide link to mine at <http://chakalov.net> .

Also, please include my statement:

Theoretical physics is done by physicists who lack the necessary skills to do real mathematics.

D. Chakalov
chakalov.net

NOTE

The proposed 'matrix' (see [above](#)) is my answer to Erik Curiel's question "What is going on here?", footnote **17** on p. **10**, in his online essay 'A Primer on Energy Conditions', 24 October 2016, at the link [above](#). See also p. **6** and footnotes **11**, **14**, **20**, and **27** therein. Bottom line is that the energy density is not an observer-independent quantity: see [above](#).

Now, [many people](#) deeply believe that the [metric space](#) of the universe is *absolutely* fixed, leading to an [absolute spatial structure](#), from 1.6×10^{-35} m ([Planck scale](#)) to *the* largest object beyond the [observable universe](#). But I am relativist and I do not like *physical* 'absolute structures'. Instead, I proposed Relative Scale spacetime (RS Spacetime, see my [website](#)) and suggested RS principle: if we examine two observers, [Alice and Bob](#), at the length scale of tables and chairs, and a table with length 1m in front of them, this table will "shrink" toward the Small and "inflate" toward the Large. So if Bob is following the journey of the table, he will **always** (Sic!) have *the same* table in front of him. Relative to Alice, however, their table will "shrink" to the size of a proton and beyond, and *at the same instant* (Sic!) *the same table* will be "inflated" to the size of galaxy cluster and beyond. Who has 'the right meter', Alice or Bob? **Wrong** question. Their RS 'meter' and 'second' are not observer-independent quantities: see Erwin Schrödinger, p. **15** in [Hyperimaginary Numbers](#).

Thus, RS spacetime is **the only way** to unite Quantum Theory with Gravity, since they will look "separated" only to Alice. Most importantly, in RS spacetime the "action" of gravity is produced by **the same** phenomenon that creates 'spacetime', only applied **locally**: shrink the RS metric to produce "cold dark matter" or inflate the RS metric to yield "dark energy". Simple, no?

Do not ever claim that you know nothing about RS spacetime.

D.C.
December 7, 2016
Latest update: December 8, 2016, 14:25 GMT

Subject: The origin of gravity

Date: Thu, 8 Dec 2016 12:48:17 +0000

Message-ID:

<CAM7EkxkRpdswYRNnSDfx5xr=Qs_hD+XQjvzvU=_sjPARq+FTA@mail.gmail.com>

From: Dimi Chakalov <dchakalov@gmail.com>

To: Karel V Kuchar <kuchar@physics.utah.edu> ,

Robert Geroch <geroch@midway.uchicago.edu>

Cc: George <gfrellis@gmail.com> ,

Chris Isham <c.isham@imperial.ac.uk> ,

Robert M Wald <rmwa@midway.uchicago.edu> ,

Adam Helfer <helfera@missouri.edu> ,

Laszlo Szabados <lbszab@rmki.kfki.hu> ,

William G Unruh <unruh@physics.ubc.ca> ,

Jörg Frauendiener <joergf@maths.otago.ac.nz> ,

Domenico Giulini <giulini@itp.uni-hannover.de> ,

Norbert Straumann <norbert.straumann@gmail.com> ,

Alex <afriat@gmail.com> ,

Alessandro Teta <teta@mat.uniroma1.it> ,

Sergiu Klainerman <seri@math.princeton.edu> ,

Sean Hayward <sean_a_hayward@yahoo.co.uk> ,

James M Nester <nester@phy.ncu.edu.tw> ,

Xiao Zhang <xzhang@amss.ac.cn> ,

Zhaoyan Wu <zhaoyanwu2000@yahoo.com> ,

Erik Curiel <erik@strangebeautiful.com> ,

David B Malament <dmalamen@uci.edu> ,

John Stachel <john.stachel@gmail.com>

Karel and Bob:

See my note on [p. 77](#) in

<http://www.god-does-not-play-dice.net/gravity.pdf>

More at my website below.

Dimi

--

D. Chakalov

chakalov.net

=====

Subject: How to manipulate entanglement locally

Date: Mon, 19 Dec 2016 15:42:37 +0000

Message-ID:

<CAM7EkxntU963RLTJqpdFbiGfOeGzP+9g9q7DBEpDzqnA0cPpdQ@mail.gmail.com>

From: Dimi Chakalov <dchakalov@gmail.com>

To: Chris <c.isham@imperial.ac.uk>

Cc: Martin <martin.plenio@uni-ulm.de> , Paul <deeptthought@asu.edu>

Chris:

Will you ever correct the interpretation of the "time parameter" in the Schrödinger equation, offered in your textbook and papers? I know how to manipulate entanglement locally. You don't.

Check out Sec. 4 in 'Hyperimaginary Numbers'
http://www.god-does-not-play-dice.net/hi_numbers.pdf

In October 2004, [many months prior to 7/7](#), I told you, in private conversation in your office, that I can detect evil intentions. Again, it is like you have a number of cups with crème brûlée in front of you, only one of it has been cooked with a clove of garlic - it will stink. Can't miss it. But I needed help to get entangled with these "cups" and pinpoint the nasty one. You did nothing, from the bottom of your heart.

I suppose you will reiterate that I "do not know enough theoretical physics to help with any research in that area" and look like "just another crank". So be it. You look exactly like "Britain's greatest expert in quantum gravity" (P. Davis) and will keep dead quiet, along with your distinguished colleagues.

D. Chakalov
chakalov.net

=====

Subject: Janusz Garecki, [arXiv:1612.07077v1 \[gr-qc\]](#), Sec. IV, p. 6
Date: Mon, 26 Dec 2016 23:05:29 +0000
Message-ID: <CAM7Ekxkcah6jz2f__9HcVP+RNxGF1PEyPRnPCAGkwwNp-uY9bg@mail.gmail.com>
From: Dimi Chakalov <dchakalov@gmail.com>
To: Janusz <garecki@wmf.univ.szczecin.pl>
Cc: Nikodem <npoplawski@newhaven.edu>, Andrzej <andrzej.trautman@fuw.edu.pl>, rmwa@midway.uchicago.edu

Dear Janusz,

May I ask you to help me understand your statement ([p. 6](#)) that "if one wants to get correct information about energy-momentum (and angular momentum) of the real gravitational field by application of coordinate-dependent pseudotensors and complexes, then one has to use these strange objects in very special situations and coordinates."

Suppose you have an empty plastic bottle on your desk, which is being affected by GWs inducing stresses in the plastic bottle (please see an excerpt from R. Wald attached): how would you define the coupling of GWs with the plastic bottle, to induce stresses in it?

And secondly, how would you define "mirrors" for GWs in asymptotically flat spacetime (A. Trautman)? Where and how would you install these GW "mirrors"?

Perhaps Andrzej and Nikodem would suggest their solutions as well.

Best regards,

Dimi

--

D. Chakalov
chakalov.net

Attachment:

How may gravitational radiation be detected? If a gravitational wave passes through matter, the ripples in the space-time curvature will induce stresses in the matter.

Robert M. Wald, *Space, Time, and Gravity*, University of Chicago Press, 1992, p. 120.

NOTE

Can you spot the similarity between [GWs](#) (see R. Wald above and [S.J. Crothers](#)) and the most widely known, ever since 1911, public secret in physics, shown [here](#) (check out the explanation on p. 3 in [Hyperimaginary Numbers](#))? It is about quantum/gravitational waves **at work**. The current textbooks in QM and in GR can stipulate only about *one single instant*, and cannot describe what is actually going on in the quantum and gravitational worlds due to their *waves*. It is agonizingly clear that the probability *itself* (cf. Erwin Schrödinger in ref. [18], p. 15, in [Hyperimaginary Numbers](#)) cannot “push” [quantum particles](#), and neither can [differential geometry](#): the mathematics *itself* cannot produce **work**. [Never did never will](#).

Einstein compared the different nature of the two sides of his field equations with ‘marble’ and ‘wood’: the first one is *pure geometry*, whereas the right-hand side is the *source* of gravity:

$$\underbrace{R_{\mu\nu} - \frac{1}{2}g_{\mu\nu}R}_{\text{Marble}} = \underbrace{\kappa T_{\mu\nu}}_{\text{Timber}}$$

There is no “marble” energy *per se*. The “marble” is only the *origin* of the “timber” energy, and the “marble” can of course *induce* stresses in the “timber” (see R. Wald above). It is the “timber” that can produce **work**, by **acting on itself**: only matter can *interact* with matter, *via* ([Sic!](#)) its “marble”, leading to *gravitational radiation*. Yet many (otherwise smart) people insist in their [arXiv:1612.09566v1 \[gr-qc\]](#) that the alleged [GW150914](#) should have “emitted as much power as $\sim 10^{23}$ suns, $\geq 10^{11}$ times more than all stars in the Milky Way, and still 60–90 times more than the ultra-luminous gamma-ray burst GRB110918A [9]”, i.e., 60–90 times more than “[several times the Solar rest-mass](#)” (Xiao-Ling Zhang *et al.*, [arXiv:1311.5734v1 \[astro-ph.HE\]](#)). Yet this colossal “marble” energy did not *induce* any “timber” effect **whatsoever**. **None**. This is [GW parapsychology](#).

If someone claims to have captured pink unicorns dancing with red herrings or some “back hole” merger emitting “gravitons” by linearized GWs, [don’t buy it](#). [Get professional](#).

The ultimate puzzle of *classical* gravity is that “there is no spring or sink for matter energy-momentum anywhere in spacetime” ([Zhao-Yan Wu](#)). If such spring-and-sink existed as [classical physical reality](#), like the state of the Moon when no one is looking at it, gravity will be a *physical* field. Say, if you order a pizza, it will exist ‘out there’ as **physical** pizza before being delivered to your door step and you eat it viz. place **the same physical pizza** in the right-hand side of Einstein’s field equations.

But with *quantum* gravity, *before* being absorbed by a physical system (e.g., an [empty plastic bottle](#)), the **not yet** *gravitationalized* pizza is still a "marble" (or [matrix](#), see p. **3** in [Hyperimaginary Numbers](#)), being **not yet** converted into *physicalized* pizza or "timber": the "marble" (dubbed *matrix* and *res potentia*) is quantum-gravitational *potential* reality (see p. **64** [above](#)). Which is why the *physicalized* "timber" can gain/loss (see [above](#)) any physical stuff by gravitational radiation: check out ref. [**16**] in [Hyperimaginary Numbers](#).

Final words. I started this project as freshman in chemistry (age 19), forty-five years ago, in January 1972. It took me full eighteen years to produce the first paper on the so-called *biocausality* ([January 1990](#)), valid for biological and quantum interactions. Gravity was conspicuously missing, and, after another twenty-three years, I finally managed to suggest the conceptual theory of quantum gravity in October 2013, along with solutions to many problems in Mathematics. Then for over three years I communicated my theory to many mathematicians and theoretical physicists, only to find out that [nobody cares](#). **Nobody**. And on Christmas 2016 I decided to quit: see p. **19** in [Hyperimaginary Numbers](#).

Forty-five years are enough. From now on, I will focus entirely on my health, as I still haven't recovered from a vicious stroke that hit my brain in September 2012. I wish my readers - if any - all the best.

D. Chakalov
December 27, 2016
Latest update: January 14, 2017, 12:58 GMT

=====

Subject: Sante Carloni, [arXiv:1612.06207v1 \[gr-qc\]](#), p. 1, "... intended as a continuum."
Date: Tue, 20 Dec 2016 13:28:00 +0000
Message-ID:
<CAM7Ekx=p-4EGm70KrxUgOOzHCzXU-jeiHC189TEbzKE93LwQkA@mail.gmail.com>
From: Dimi Chakalov <dchakalov@gmail.com>
To: Sante <sante.carloni@gmail.com>
Cc: [snip]

Dear Dr. Carloni,

In your latest paper dated 20 December 2016, you wrote: "One of the most important foundational assumptions of General Relativity (GR) is related with the way in which the curvature of spacetime and the matter in that spacetime interact. In his effort to construct a consistent theory, Einstein [1] chose a proportionality relation between what would be called the Einstein tensor and the stress energy tensor of matter, intended as a continuum."

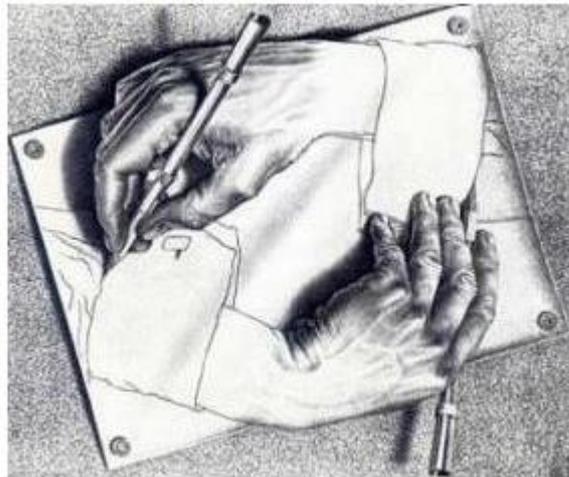
How can you make spacetime continuum if the curvature of spacetime and the matter in **that same** spacetime are engaged in non-linear interaction, like Escher's 'drawing hands' (cf. attached)? Notice that the spacetime continuum is made of 4D point-like events which are *ONLY* the **end results** of the non-linear interactions -- **one end result at a time**, as read with a clock.

The opinions of your colleagues will be greatly appreciated as well. Check out my website for details.

Pity [John Stewart](#) left his jacket last month and cannot help. He was a great man and an outstanding physicist. God bless his soul.

NOTE

potential reality
(*res potentia*)



physical reality
(*res extensa*)

To understand the *spacetime* continuum, check out the Gedankenexperiment with Stavros (September 2011) in ref. [54] on p. 34 in 'The Spacetime': every *consecutive* 4D instant 'here and now' is located 'in the train' driven by its 'locomotive' (*ibid.*, p. 7); the latter is 'the Universe as ONE' as *res potentia* (cf. p. 64 above). It (not "He") *cannot* be observed, as explained metaphorically by Plato (*ibid.*, p. 5, Fig. 5). Why not? Because of the "speed" of light. For comparison, imagine that you stay in front of a wall, and at t_1 you toss a ball at it, in such way that the ball will bounce back and hit you later at t_2 : you will be watching the state of the ball during the *finite* interval $t_2 - t_1 > 0$. But you cannot replace the ball with a photon, because the time interval between its emission at t_1 and absorption at t_2 will be *exactly zero*: $t_2 \equiv t_1$ denotes *one* event located in the irreversible **past**, whereas the Platonic *res potentia* always resides in the potential **future** of *the same* event $t_2 \equiv t_1$ (see p. 5 in 'Hyperimaginary Numbers' and Fig. 7 in 'The Spacetime'). Hence Stavros will *always* see me sitting next to him in the train and will notice *changes* in my state, as recorded with his watch **inside** the train. But the observational fact that "change has been measured" (A. Anderson, p. 8) does not mean that any *physical* stuff (4D shadows on the wall in Plato's cave, see above) could detect the *flow* of time. What we call 'time' is the joint result from 'change *in* space' and 'change **of** space' (p. 10 in 'Hyperimaginary Numbers') — it's a bundle. Thus, (i) the global, *atemporal*, and inherently non-linear (see Escher's [drawing hands](#)) **negotiation** between 'the Universe as ONE' as *res potentia* and every individual **point-wise** ($t_2 \equiv t_1$) quantum-gravitational object is similar to (ii) the negotiation between the entire *delocalized* (see [L. Szabados above](#)) school of fish and every individual **point-wise** ($t_2 \equiv t_1$) local fish (see the note from 24 May 2016 [above](#)), in line with the rule 'think globally act locally'. Hence all passengers 'in the train' (see above) observe quantum-gravitational **waves at work**, as well as quantum-gravitational **rotation**, such as **gravitational spin** and "dark matter". The GW150914 is just a dilettantish **fraud**.

Thanks to the "speed" of light, the global 'change **of** space' *and* the local 'change *in* space' are unobservable *in principle*, leading to a **perfect** spacetime continuum: $t_2 \equiv t_1 = 0$. We live in a **perfect** 4D continuum of **re-created** temporal "points" $0^1, 0^2, 0^3, \dots, 0^n, \dots$, located **on** the light cone (**null intervals**), and **re-created** 3D space "points" generated **sideways**, as explained [above](#). The so-called **foliation of spacetime** is *totally* wrong.

Thanks to the "speed" of light, [God](#) as 'the Universe as ONE' (*res potentia*, see [p. 64](#)) is unobservable *in principle*. Otherwise we will face an *absolute* reference frame at *absolute* rest, pertaining to the First Cause and Unmoved Mover ([Aristotle](#)). Yet any time we look through 3D space and check out the time 'here and now', we refer to the topology of spacetime and causality as well, defined "globally in a consistent way" ([P. Chrusciel](#)) by the Universe as ONE (the school of fish as ONE, see the note from 24 May 2016 [above](#)). The global (*res potentia*) and local (*res extensa*, see [p. 64](#)) properties of spacetime are **inseparable**. It's a bundle, again. As explained previously (cf. the identity of international second on p. 3 in '[Hyperimaginary Numbers](#)'), no physical stuff *alone* could reproduce an invariant [spacetime interval](#), $s^2 = \Delta r^2 - c^2 \Delta t^2$. **NB:** The invariant interval is [quadratic](#), which is required for the introduction of hyperimaginary numbers, $|w|^2 = 0 = t_2 \equiv t_1$.

Pity the current [academic scholars](#) are not interested in the facts of Nature nor in the unsolved problems of Mathematics in [point-set topology](#), [set theory](#), and [number theory](#).

[Matthew 7:6](#).

D. Chakalov
January 12, 2017
Latest update: January 27, 2017, 12:21 GMT

=====

Subject: Re: Wednesday 5 April 2017 at Geneva Tim Palmer (University of Oxford)
Date: Mon, 30 Jan 2017 13:44:27 +0000
Message-ID: <CAM7EkxkSAnFECD2Y_vWumfWXCn=kCRicJL1uDzCnpCafJR3LtQ@mail.gmail.com>
From: Dimi Chakalov <dchakalov@gmail.com>
To: Tim <tim.palmer@physics.ox.ac.uk>
Cc: Baptiste.LeBihan@unige.ch, Daniele Oriti <daniele.oriti@aei.mpg.de>, Laurent <lfreidel@perimeterinstitute.ca>, Achim <akempf@uwaterloo.ca>, alain@connes.org

Tim, I won't be able to attend your talk on 5 April 2017. Are you going to attend the conference in Geneva?

<https://beyondspacetime.net/2017conference/>

See the abstract of my talk and the first slide, as well as my preceding drawing (attached). You won't need any non-computable fractal geometry nor non-commutative poetry à la [Alain Connes](#).

Join the club, we'll have a jolly good time! :-))

Dimi
--
D. Chakalov
[chakalov.net](#)

On Tue, Jan 24, 2017 at 1:24 PM, Dimi Chakalov <dchakalov@gmail.com> wrote:
[snip]

Attachments:
http://www.god-does-not-play-dice.net/CPQG2017_Submission_15.pdf
http://www.god-does-not-play-dice.net/DC_Slide_1.pdf
http://www.god-does-not-play-dice.net/Wilson_1911.jpg

Subject: Re: R. Geroch (1968), What is a singularity in General Relativity?

Date: Tue, 7 Feb 2017 00:59:31 +0000

Message-ID:

<CAM7Ekx=4TdAbzcOnscX83yxWZ19Ba9-v1Y9aRwkWdjeysS8U2w@mail.gmail.com>

From: Dimi Chakalov <dchakalov@gmail.com>

To: Robert Geroch <geroch@midway.uchicago.edu>, Robert M Wald <rmwa@midway.uchicago.edu>, Jörg Frauendiener <joergf@maths.otago.ac.nz>, Adam Helfer <helfera@missouri.edu>, Laszlo Szabados <lbszab@rmki.kfki.hu>, Xiao Zhang <xzhang@amss.ac.cn>, Richard M Schoen <schoen@math.stanford.edu>, Niall Ó Murchadha <niall@ucc.ie>, Shing-Tung Yau <yau@math.harvard.edu>, Lau Loi So <s0242010@gmail.com>, Steven Weinberg <weinberg@physics.utexas.edu>, Josh Goldberg <goldberg@phy.syr.edu>, Jose Geraldo Pereira <jpereira@ift.unesp.br>, Mu-Tao Wang <mtwang@math.columbia.edu>, Wei-Tou Ni <weitou@gmail.com>, Jim Isenberg <isenberg@uoregon.edu>, Jose M M Senovilla <josemm.senovilla@ehu.es>, Chris Isham <c.isham@imperial.ac.uk>, Vincent Moncrief <vincent.moncrief@yale.edu>, Thibault Damour <damour@ihes.fr>, Mihalis <dafermos@princeton.edu>, Helmut Friedrich <hef@aei.mpg.de>, Lars Andersson <laan@aei.mpg.de>, Paul Tod <tod@maths.ox.ac.uk>, Ezra Newman <newman@pitt.edu>, Piotr T Chrusciel <piotr.chrusciel@univie.ac.at>, Robert Beig <robert.beig@univie.ac.at>, Demetrios Christodoulou <demetri@math.ethz.ch>, Sergiu Klainerman <seri@math.princeton.edu>, Stanley Deser <deser@brandeis.edu>, Florian Beyer <fbeyer@maths.otago.ac.nz>, Ettore Minguzzi <ettore.minguzzi@unifi.it>, Gary W Gibbons <G.W.Gibbons@damtp.cam.ac.uk>, Joseph Katz <jkatz@phys.huji.ac.il>, Paul K Townsend <P.K.Townsend@damtp.cam.ac.uk>, Harvey S Reall <H.S.Reall@damtp.cam.ac.uk>, Fernando Quevedo <F.Quevedo@damtp.cam.ac.uk>, David M A Stuart <D.M.A.Stuart@damtp.cam.ac.uk>, John Barrow <J.D.Barrow@damtp.cam.ac.uk>, Jonathan Thornburg <jthorn@astro.indiana.edu>, Jeffrey Winicour <winicour@pitt.edu>, Greg Galloway <galloway@math.miami.edu>, Richard Woodard <woodard@phys.ufl.edu>, Bernard J Carr <b.j.carr@qmul.ac.uk>, Ravindra Saraykar <ravindra.saraykar@gmail.com>, Domenico Giulini <giulini@itp.uni-hannover.de>, Claus Kiefer <kiefer@thp.uni-koeln.de>, Claus Gerhardt <gerhardt@math.uni-heidelberg.de>, John Friedman <friedman@uwm.edu>, Joan <sola@ecm.ub.edu>, Ivo.van.Vulpen@nikhef.nl, Norbert Straumann <norbert.straumann@gmail.com>, Ruth Durrer <Ruth.durrer@unige.ch>, Mike <mturner@kicp.uchicago.edu>, George F Smoot III <gfsmoot@lbl.gov>, Anthony Leggett <aleggett@illinois.edu>, Anthony Zee <zee@kitp.ucsb.edu>, George Efstathiou <gpe@ast.cam.ac.uk>, Jeremiah P Ostriker <ostriker@princeton.edu>, Don Page <profdonpage@gmail.com>, Frank Tipler <tipler@math.tulane.edu>, George <gfrellis@gmail.com>, Robert van den Hoogen <rvandenh@stfx.ca>, Roger Penrose <rouse@maths.ox.ac.uk>

P.S. Are you going to attend the conference in Geneva?

<https://beyondspacetime.net/2017conference/>

See the introductory slides from my talk (attached).

D. Chakalov
chakalov.net

On Tue, 26 May 2015 12:09:35 +0000, Dimi Chakalov <dchakalov@gmail.com> wrote:
[snip]

Attachment:
http://www.god-does-not-play-dice.net/DC_Slide_1.pdf

Check out [Slide 7](#) in my presentation at [this http URL](#). The CERN talibans - 你蠢的白痴 - employ the same phenomenon (see the CERN drawing below), only we pay **BILLIONS** of euros from *our* taxes for their hobby.

BILLIONS.



Subject: CERN talibans: Get professional.

Date: Mon, 13 Feb 2017 13:26:29 +0000

Message-ID:

<CAM7Ekx=9yJo=7jh6K4EbWa3cUyy_y76YQGMPDanLTij7Zop=Eg@mail.gmail.com>

From: Dimi Chakalov <dchakalov@gmail.com>

To: th-unit-secretariat@cern.ch,

David Charlton <d.g.charlton@bham.ac.uk>,

SERGIO.BERTOLUCCI@cern.ch,

ROLF.HEUER@cern.ch,

JOACHIM.MNICH@desy.de,

LOHSE@physik.hu-berlin.de,

KATSAN@admin.in2p3.fr,

JoAnne Hewett <HEWETT@slac.stanford.edu>,

DYREKTOR@ifj.edu.pl,

MANFRED.KRAMMER@oeaw.ac.at,

MEIERK@kip.uni-heidelberg.de,

THOMAS.MUELLER@kit.edu,

Kerstin Borrás <KERSTIN.BORRAS@desy.de>,

Halina Abramowicz <HALINA@post.tau.ac.il>,

CLAUDIA.WULZ@cern.ch,

MKRAEMER@physik.rwth-aachen.de,

RAFFELT@mpp.mpg.de,

MARKUS.SCHUMACHER@physik.uni-freiburg.de,

ACHIM.STAHL@physik.rwth-aachen.de,

S.BENTVELSEN@nikhef.nl,

N.DEGROOT@hef.ru.nl,

T.PEITZMANN@phys.uu.nl,

BOSMAN@ifae.es,

RICHARD.BRENNER@cern.ch,

JOHAN.RATHSMAN@thep.lu.se,

E.W.N.GLOVER@durham.ac.uk,

MKLEIN@hep.ph.liv.ac.uk,

PHILIPPE.BLOCH@cern.ch,

JEAN-PIERRE.DELAHAYE@cern.ch,

JURGEN.SCHUKRAFT@cern.ch,

URS.WIEDEMANN@cern.ch,

CHARLOTTE.JAMIESON@stfc.ac.uk,

Fabiola Gianotti <Fabiola.Gianotti@cern.ch>,

Ignatios Antoniadis <antoniadis@itp.unibe.ch>,

Peter Jenni <Peter.Jenni@cern.ch>,
John Ellis <John.Ellis@cern.ch>,
john.swain@cern.ch,
GERALDINE.SERVANT@cern.ch,
CEDRIC.DELAUNAY@cern.ch,
GIAN.GIUDICE@cern.ch,
CHRISTOPHE.GROJEAN@cern.ch,
GILAD.PEREZ@cern.ch,
JAMES.WELLS@cern.ch,
ANDREA.THAMM@cern.ch,
CHRISTIAN.THOMAS.BYRNES@cern.ch,
ANNE-MARIE.PERRIN@cern.ch,
Susanne Reffert <SUSANNE.REFFERT@cern.ch>,
JULIEN.LESGOURGUES@cern.ch,
Georgi Dvali <GEORGI.DVALI@cern.ch>,
HYUN.MIN.LEE@cern.ch,
GEORGE.ZOUPANOS@cern.ch,
James Gillies <James.Gillies@cern.ch>,
Ivo <Ivo.van.Vulpen@nikhef.nl>
Cc: Ed Witten <witten@ias.edu>,
Steven Weinberg <weinberg@physics.utexas.edu>,
Sergiu Klainerman <seri@math.princeton.edu>,
Demetrios Christodoulou <demetri@math.ethz.ch>,
Merced Montesinos Velásquez <merced@fis.cinvestav.mx>,
Jean-Pierre Derendinger <derendinger@itp.unibe.ch>,
Wei-Tou Ni <weitou@gmail.com>,
Carla Cederbaum <cederbaum@math.uni-tuebingen.de>,
hofstett@itp.uni-frankfurt.de,
philipsen@th.physik.uni-frankfurt.de,
gwpaw2015_support@gwv.hep.osaka-cu.ac.jp,
rxh1@psu.edu,
Yongge Ma <mayg@bnu.edu.cn>,
Sijie Gao <sijie@bnu.edu.cn>,
Eduardo Guendelman <guendel@bgumail.bgu.ac.il>,
Gary W Gibbons <G.W.Gibbons@damtp.cam.ac.uk>,
Claus Kiefer <kiefer@thp.uni-koeln.de>,
Carlo Rovelli <rovelli@cpt.univ-mrs.fr>,
Domenico Giulini <giulini@itp.uni-hannover.de>,
Gary Horowitz <gary@physics.ucsb.edu>,
Greg Galloway <galloway@math.miami.edu>,
Bernard J Carr <b.j.carr@qmul.ac.uk>,
Adam Helfer <helfera@missouri.edu>,
Laszlo Szabados <lbszab@rmki.kfki.hu>,
Jeffrey Winicour <winicour@pitt.edu>,
janos@cs.technion.ac.il

"Overfunded research is like heroin: It makes one addicted, weakens the mind and furthers prostitution."
Johann Makowsky, The Jerusalem Post, 19 April 1985.

Shame on you, CERN talibans. You are wasting **BILLIONS** of euros, all taxpayers' money.

All you could do is to ban my email address due to some "[phishing attacks](#)", which I have never made. **Fact**.

Check out the slides of my forthcoming talk in Geneva at

http://www.god-does-not-play-dice.net/DC_Slide_1.pdf

If you cannot find any "phishing attacks" in my slides, come to the conference in Geneva this June,
<https://beyondspacetime.net/2017conference/>

I will give you a lesson you will never forget.

Promise.

D. Chakalov
chakalov.net

=====

Subject: CERN talibans: Get professional.
Date: Wed, 1 Mar 2017 18:18:41 +0100
Message-ID:
<trinity-24847b9e-5482-433a-8a40-66ef9d341789-1488388721566@3capp-mailcom-lxa07>
From: quantum.gravity@mail.com
To: th-unit-secretariat@cern.ch, David Charlton <d.g.charlton@bham.ac.uk>, SERGIO.BERTOLUCCI@cern.ch, URS.WIEDEMANN@cern.ch, Fabiola Gianotti <Fabiola.Gianotti@cern.ch>, Ignatios Antoniadis <antoniadis@itp.unibe.ch>

"Overfunded research is like heroin: It makes one addicted, weakens the mind and furthers prostitution."
Johann Makowsky, The Jerusalem Post, 19 April 1985.

Shame on you, CERN talibans. You are wasting **BILLIONS** of euros, all taxpayers' money.

All you could do is to ban my gmail address due to some "phishing attacks", which I have never made. Fact.

Check out the slides of my forthcoming talk in Geneva at

<https://www.youtube.com/watch?v=ac11wWHwXW0>
http://www.god-does-not-play-dice.net/DC_Slide_1.pdf

If you cannot find any "phishing attacks" in my slides, come to the conference in Geneva this June,
<https://beyondspacetime.net/2017conference/>

I will teach you a lesson you will never forget.

Promise.

D. Chakalov
chakalov.net

=====

Subject: Talk by Philipp Berghofer, Geneva, 1 March, 18:00-19:30

Date: Tue, 28 Feb 2017 18:57:58 +0000

Message-ID:

<CAM7Ekxmj3F_7fNR6PXf9K_eK5L0rQ=c76p7dvXYCGH52CWAUg@mail.gmail.com>

From: Dimi Chakalov <dchakalov@gmail.com>

To: philipp.berghofer@uni-graz.at

Cc: Geneva Symmetry Group <geneva-symmetry-group@googlegroups.com>, Tim <tim.palmer@physics.ox.ac.uk>, Christian Schaffner <schaffner@esc.ethz.ch>, Ric <ricardoclandim@gmail.com>, David Bruschi <david.edward.bruschi@gmail.com>, paddy@iucaa.in, Richard Price <rprice.physics@gmail.com>, j.oppenheim@ucl.ac.uk, Dennis Dieks <d.dieks@uu.nl>, f.dowker@imperial.ac.uk, stefan.hollands@uni-leipzig.de, ko_sanders@hotmail.com, s.hartmann@lmu.de, arthur.merin@uni-konstanz.de, erik.curriel@lrz.uni-muenchen.de, hannes.leitgeb@lmu.de, marianna.antonuttimarfori@lrz.uni-muenchen.de, norbert.gratzl@lrz.uni-muenchen.de, martin.rechenauer@lrz.uni-muenchen.de, thomas.buchheim@lrz.uni-muenchen.de, cpqg2017@easychair.org, Daniele Oriti <daniele.oriti@aei.mpg.de>, Baptiste.LeBihan@unige.ch, Alastair Wilson <a.j.wilson@bham.ac.uk>

Dear Philipp,

Relations have relata - see Max Planck (attached) and <https://www.youtube.com/watch?v=ac11wWHwXW0>

Details at my website.

All the best,

Dimi

--

D. Chakalov
chakalov.net

--

Attachment:

http://www.god-does-not-play-dice.net/DC_Slide_1.pdf

=====

Subject: Re: "... perhaps gravity is "special", and it is merely a coincidence that it looks like a fictitious force."

Date: Thu, 2 Mar 2017 12:09:28 +0000

Message-ID:

<CAM7Ekxno=rxH093=A+a1=uswsqANFWvOu1yASJDzMUJ1=bsDWA@mail.gmail.com>

From: Dimi Chakalov <dchakalov@gmail.com>

To: Courtney Seligman <courtney@cseligman.com>

Cc: Karel V Kuchar <kuchar@physics.utah.edu>, William G Unruh <unruh@physics.ubc.ca>, Norbert Straumann <norbert.straumann@gmail.com>, Chris Isham <c.isham@imperial.ac.uk>

Courtney:

Yes, gravity is indeed "special".

You wrote at <http://cseligman.com/text/physics/fictitious.htm>

"Of course, we can't explain gravity in that way, as that would require every part of the Earth to be accelerating upward and outward, which would make the Earth bigger and bigger, which is not observed."

Replace Earth with 'the entire Universe', and recall [Dennis Sciama](#) (On the origin of inertia, [19 August 1952](#)): "inertial effects arise from the gravitational field of a moving universe." Three people were awarded Nobel Prize in 2011 "for the discovery of the accelerating expansion of the Universe", remember? That's how the Universe is "moving" with "acceleration", to produce the **flow of time**.

So inertia is the local resistance against globally accelerated "moving universe" ([Dennis Sciama](#)), producing **time**. But with respect to WHAT? Some "absolute space" (Newton) or "fixed stars" (Mach)?

Wrong question. The *flow of time* is NOT relational phenomenon. If it were, the Aristotelian Unmoved Mover and First Cause would be physical phenomena, we could pinpoint their absolute reference frame, and the theory of relativity will be demolished.

Check out
<https://www.youtube.com/watch?v=ac11wWHwXW0>

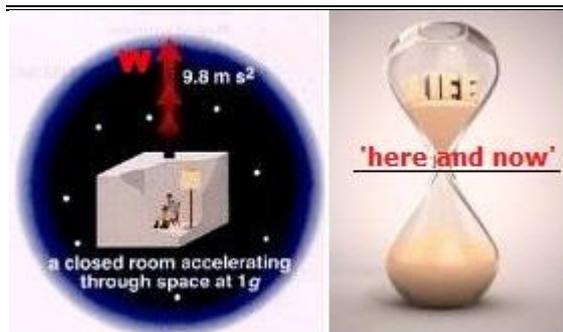
Details at my website.

I thank [Dennis W. Sciama](#) for his insights in the origin of gravity.

Dimi Chakalov
chakalov.net

On Sat, 23 Mar 2013 03:15:37 +0200, Dimi Chakalov <dchakalov@gmail.com> wrote:
[snip]

NOTE



The holistic "**force**" mentioned by Max Planck ([Slide 16](#)) is depicted here with the red arrow **W**. This "force" acts uniformly on the entire "closed room" *en bloc*, producing our **flow of time**. It is an *omnidirectional* "force", which is why we have 'time' in *any* direction in 3D space. It produces **self-acting** Universe and perpetually violates [Newton's third law](#): check out *Hyperimaginary Numbers*, [p. 3](#).

If we *tweak* the arrow **W**, perhaps we can switch to "free fall" and fly by Reversible Elimination of Inertial Mass ([REIM](#)), much like we move out thoughts ([Slide 11](#)). No need for any physical stuff that would "propagate to and from the distant future out there"¹. Instead, the **inertia** of every local "fish" has been *already* ($t_2 \equiv t_1$, [p. 82](#)) **pre**-correlated and **re**-determined **by** the entire "school of fish" ([p. 30](#)) at every consecutive instant 'here and now'. The instantaneous **pre**-correlations and **re**-determinations are *atemporal* holistic phenomena: see [p. 60](#) and the slides from my forthcoming presentation at [this http URL](#).

What makes [REIM](#) possible is that "one cannot associate **gauge-independent** energy-momentum (and angular momentum) density with the gravitational 'field'; i.e. any such expression is pseudotensorial"² – **gauge-independent** quantities correspond to *physical* reality in classical physics, which cannot "vanish", whereas the gravitational energy density *and* the spatial stress are **res potentia** ([Slide 6](#)) and therefore can **vanish** by [REIM](#), and become the "thoughts" ([Albert Einstein](#)) of the quantum-gravitational universe, much like the inertia of our thoughts ([Slide 11](#)) is permanently eliminated. To get started, check out the [evolution equation](#) in *Hyperimaginary Numbers* and follow the [Law of Reversed Effort](#): "To the mind that is still, the whole universe surrenders" ([Lao Tzu](#)).

Pity [nobody is interested](#).

D. Chakalov

March 5, 2017

Latest update: March 14, 2017, 01:05 GMT

1. James F. Woodward, *The Origin of Inertia*, 1998.

<https://physics.fullerton.edu/~jimw/general/inertia/index.htm>

"It turns out that electromagnetic radiation reaction (the reaction force on a source produced when radiation is launched) is neatly accounted for in terms of a combination of "retarded" waves (normal waves propagating forward in time) and advanced waves. (...) Precisely the same thing evidently happens with inertial reaction forces. The act of pushing on something causes a disturbance in the gravitational field to go propagating off into the future. It makes stuff (the "absorber") out there wiggle. When the stuff wiggles it sends disturbances backward (and forward) in time. All the backward traveling disturbances converge on what we're pushing and generate the inertial reaction force we feel. No physical law is violated in any of this. And nothing moves faster than the speed of light. It only seems so because of the advanced waves traveling at the speed of light in the backward time direction. (...) We are left with the fact that the least implausible explanation of the origin of inertia is gravitational disturbances that propagate to and from the distant future out there."

2. L. B. Szabados, *Two dimensional Sen connections in general relativity*,

[arXiv:gr-qc/9402001v1](https://arxiv.org/abs/gr-qc/9402001v1). Details by L. B. Szabados at [this http URL](#).

=====

Subject: Re: The Big Question, by Paul Tod

Date: Sat, 18 Mar 2017 12:08:06 +0000

Message-ID:

<CAM7Ekxn-hCC_qh04dxkY1+9YVe6fbUhszwQEBb=chQj1Ne5epA@mail.gmail.com>

From: Dimi Chakalov <dchakalov@gmail.com>

To: tod@maths.ox.ac.uk, penroad@wadh.ox.ac.uk

Cc: Jörg Frauendiener <joergf@maths.otago.ac.nz> ,

Sergiu Klainerman <seri@math.princeton.edu> ,

Malcolm MacCallum <m.a.h.maccallum@qmul.ac.uk> ,

Steven Weinberg <weinberg@physics.utexas.edu> ,

Robert Geroch <geroch@uchicago.edu> ,

Helmut Friedrich <hef@aei.mpg.de> ,

Richard Schoen <schoen@math.stanford.edu> ,

Piotr T Chrusciel <piotr.chrusciel@univie.ac.at> ,

George <gfrellis@gmail.com>

Hi Paul,

As a student of Roger Penrose, you made brave efforts to elucidate some bright idea (if any) in his writings. Would you like to see my equation ([attached](#)) and offer a brief review?

I extend this offer to all your colleagues.

All the best,

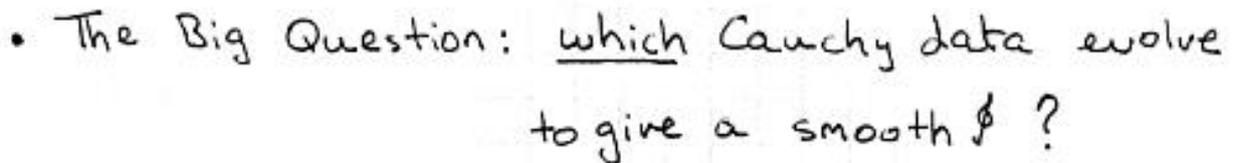
Dimi

--

D. Chakalov
chakalov.net

On Tue, 20 Dec 2011 13:13:28 +0200, Dimi Chakalov <dchakalov@gmail.com> wrote:
[snip]

Attachments:



• The Big Question: which Cauchy data evolve to give a smooth ϕ ?

<http://www.god-does-not-play-dice.net/CEN.pdf>

=====
Subject: Creatio Ex Nihilo: The Evolution Equation
Date: Thu, 23 Mar 2017 10:57:37 +0000
Message-ID: <CAM7Ekxk8fLqr_4M197-svMUapWi4-q7ULqk82LEy6nE24UG=Wg@mail.gmail.com>
From: Dimi Chakalov <dchakalov@gmail.com>
To: Guang-jiong Ni <pdx01018@pdx.edu>, Xiao Zhang <xzhang@amss.ac.cn>, Yuan K Ha <yuanha@temple.edu>, Zhao-Yan Wu <zhaoyanwu2000@yahoo.com>, Wei-Tou Ni <weitou@gmail.com>, Yongge Ma <mayg@bnu.edu.cn>, Sijie Gao <sijie@bnu.edu.cn>, Weipeng Lin <linwp@shao.ac.cn>, Juntao Shen <jshen@shao.ac.cn>, Feng Yuan <fyuan@shao.ac.cn>, Lau Loi So <s0242010@gmail.com>, Ivo van Vulpen <Ivo.van.Vulpen@nikhef.nl>, Domenico Giulini <giulini@itp.uni-hannover.de>, Gary Horowitz <gary@physics.ucsb.edu>, Greg Galloway <galloway@math.miami.edu>, Bernard J Carr <b.j.carr@qmul.ac.uk>, Adam Helfer <helfera@missouri.edu>, Laszlo Szabados <lbszab@rmki.kfki.hu>, Jeffrey Winicour <winicour@pitt.edu>, Karel V Kuchar <kuchar@physics.utah.edu>,
=====

Richard Price <rprice.physics@gmail.com>,
Ronald J Adler <gyroron@gmail.com>,
Hans Ohanian <hohanian@uvm.edu>,
James M Nester <nester@phy.ncu.edu.tw>,
Sean Hayward <sean_a_hayward@yahoo.co.uk>,
Jörg Frauendiener <joergf@maths.otago.ac.nz>,
George Ellis <gfrellis@gmail.com>,
Norbert Straumann <norbert.straumann@gmail.com>,
William G Unruh <unruh@physics.ubc.ca>,
Robert Geroch <geroch@midway.uchicago.edu>,
Robert M Wald <rmwa@midway.uchicago.edu>,
Paul Steinhardt <steinh@princeton.edu>,

<http://vixra.org/abs/1703.0222>

--

Dear Colleagues,

I will appreciate your critical opinion.

Kind regards,

Dimi Chakalov
chakalov.net

=====

Subject: Quantum geometry
Date: Fri, 24 Mar 2017 03:02:22 +0000
Message-ID: <CAM7EkxkvUZAqGy5Gz14983RpiQ3np6-SGYxtChrVVb4La+Xfg@mail.gmail.com>
From: Dimi Chakalov <dchakalov@gmail.com>
To: Lisa <glaser@science.ru.nl>, Renate <r.loll@science.ru.nl>
Cc: Jan <ambjorn@nbi.dk>, Adrian <acho@aaas.org>,
Stephan <s.hartmann@lmu.de>, Hamish <hamish.johnston@iop.org>,
Hartmann <hartmann.roemer@physik.uni-freiburg.de>,
Thomas <filk@physik.uni-freiburg.de>,
Silke <silke.weinfurtner@nottingham.ac.uk>,
Eli <elياهو.cohen@bristol.ac.uk>,
Ralf <ralf.schuetzhold@uni-due.de>,
Karim <karim.thebault@bristol.ac.uk>,
Bill <unruh@physics.ubc.ca>

Dear Lisa and Renate,

You wrote in your latest [arXiv:1703.08160v1 \[gr-qc\]](https://arxiv.org/abs/1703.08160v1) that "the spectral and Hausdorff dimensions that are usually considered provide only a very loose (and again pre-geometric) characterization of quantum geometry."

If you are interested in quantum geometry, check out CEN.pdf attached.
Details at my website below.

All the best,

Dimi

--

D. Chkalov
chakalov.net

Attachment:

<http://www.god-does-not-play-dice.net/CEN.pdf>

=====
Subject: Re: The so-called "smooth" or "infinitely differentiable" manifold (C^∞) is a joke.
Date: Sat, 15 Apr 2017 14:36:07 +0000

Message-ID:

<CAM7Ekxm2Nt=quoZTQ3__UDYGJJ2b8q6_br8uUy1A5YJ_x_pEQA@mail.gmail.com>

From: Dimi Chkalov <dchakalov@gmail.com>

To: Chris Isham <c.isham@imperial.ac.uk>, Karel V Kuchar <kuchar@physics.utah.edu>, Erik Curiel <erik@strangebeautiful.com>, Eric Gourgoulhon <eric.gourgoulhon@obspm.fr>, Gian Michele Graf <gian-michele.graf@itp.phys.ethz.ch>, Ignatios Antoniadis <antoniadis@itp.unibe.ch>, Ivo <Ivo.van.Vulpen@nikhef.nl>, Ed Witten <witten@ias.edu>, Steven Weinberg <weinberg@physics.utexas.edu>, Sergiu Klainerman <seri@math.princeton.edu>, Demetrios Christodoulou <demetri@math.ethz.ch>, Merced Montesinos Velásquez <merced@fis.cinvestav.mx>, Jean-Pierre Derendinger <derendinger@itp.unibe.ch>, Wei-Tou Ni <weitou@gmail.com>, Yongge Ma <mayg@bnu.edu.cn>, Sijie Gao <sijie@bnu.edu.cn>, Eduardo Guendelman <guendel@bgumail.bgu.ac.il>, Claus Kiefer <kiefer@thp.uni-koeln.de>, Domenico Giulini <giulini@itp.uni-hannover.de>, Gary Horowitz <gary@physics.ucsb.edu>, Greg Galloway <galloway@math.miami.edu>, Bernard J Carr <b.j.carr@qmul.ac.uk>, Adam Helfer <helfera@missouri.edu>, Laszlo Szabados <lbszab@rmki.kfki.hu>, Jeffrey Winicour <winicour@pitt.edu>, Johan <janos@cs.technion.ac.il>, Jörg Frauendiener <joergf@maths.otago.ac.nz>, Xiao Zhang <xzhang@amss.ac.cn>, Richard M Schoen <schoen@math.stanford.edu>, Niall Ó Murchadha <niall@ucc.ie>, Shing-Tung Yau <yau@math.harvard.edu>, Lau Loi So <s0242010@gmail.com>, Jim Isenberg <isenberg@uoregon.edu>, Jose M M Senovilla <josemm.senovilla@ehu.es>, Mihalis <dafermos@princeton.edu>, Helmut Friedrich <hef@aei.mpg.de>, Lars Andersson <laan@aei.mpg.de>, Paul Tod <tod@maths.ox.ac.uk>, Ezra Newman <newman@pitt.edu>, Piotr T Chrusciel <piotr.chrusciel@univie.ac.at>, Robert Beig <robert.beig@univie.ac.at>, Florian Beyer <fbeyer@maths.otago.ac.nz>, Ettore Minguzzi <ettore.minguzzi@unifi.it>, Gary W Gibbons <G.W.Gibbons@damtp.cam.ac.uk>, Joseph Katz <jkatz@phys.huji.ac.il>, Paul K Townsend <P.K.Townsend@damtp.cam.ac.uk>, Harvey S Reall <H.S.Reall@damtp.cam.ac.uk>, Fernando Quevedo <F.Quevedo@damtp.cam.ac.uk>, David M A Stuart <D.M.A.Stuart@damtp.cam.ac.uk>, John Barrow <J.D.Barrow@damtp.cam.ac.uk>, Jonathan Thornburg <jthorn@astro.indiana.edu>, Claus Gerhardt <gerhardt@math.uni-heidelberg.de>, John Friedman <friedman@uwm.edu>, Joan <sola@ecm.ub.edu>, Norbert Straumann <norbert.straumann@gmail.com>, Ruth Durrer <Ruth.durrer@unige.ch>, Mike <mturner@kicp.uchicago.edu>, George F Smoot III <gfsmoot@lbl.gov>, Anthony Leggett <aleggett@illinois.edu>, Anthony Zee <zee@kitp.ucsb.edu>, George Efstathiou <gpe@ast.cam.ac.uk>, Jeremiah P Ostriker <ostriker@princeton.edu>, Don Page <profdonpage@gmail.com>, Frank Tipler <tipler@math.tulane.edu>, George <gfrellis@gmail.com>, John Baez <baez@math.ucr.edu>, Jan <jjs48@cam.ac.uk>, Eric <e.ling@math.miami.edu>, Carlo <rovelli.carlo@gmail.com>

<http://www.god-does-not-play-dice.net/CEN.pdf>

(18 pages, April 15, 2017, 14:21:00 GMT)

Happy Easter! May God give you what you are looking for.

D.C.



In March 2011, the German government announced that it will close all of its nuclear power plants by 2022. This is my second and last research proposal to [Max Planck Society](#). The first one was sent by snail mail in March 1994, after the Conference on Science and Theology (ECST V) in Freising bei München (March 23-27, 1994), but nobody even confirmed the receipt of my research proposal. Back in March 1994, it was dubbed MAVER; now it is BAVER (p. 11 in [CEN.pdf](#)). If confirmed, it could save many **billions** of euro to German taxpayers. Let's see if [Max Planck Society](#) and their colleagues will show interest in **unlimited clean energy**.

D. Chakalov
29 April 2017

Subject: Unlimited clean energy
Date: Thu, 27 Apr 2017 15:04:30 +0000
Message-ID: <CAM7EkxkFbBWvCJdmFDTUs0wguYh6Us0jRVXq6COcunuySzqP0g@mail.gmail.com>
From: Dimi Chakalov <dchakalov@gmail.com>
To: Bernhard Milow <bernhard.milow@dlr.de>,
Torsten Asselmeyer-Maluga <torsten.asselmeyer-maluga@dlr.de>,
Marcus Bleicher <bleicher@th.physik.uni-frankfurt.de>,
Matthias Kaschube <kaschube@fias.uni-frankfurt.de>,
Gaby Ehlgén <ehlgén@fias.uni-frankfurt.de>,
Christina Beck <beck@gv.mpg.de>,
Helmut Hornung <hornung@gv.mpg.de>

Dear Colleagues,

I have a research proposal aimed at extracting energy from spacetime. If confirmed, you will be able to scrap all nuclear power stations well before 2022.

If you are interested, please check out the first paper at my website below, about my evolution equation.

Kind regards,

Dimi Chakalov
chakalov.net

NOTE

Neither [Max Planck Society](#) nor any of their colleagues confirmed the receipt of my email sent on April 27, 2017 (printed [above](#)). If I had offered them to purchase cat food from my website, perhaps some of them would have replied. They simply don't care, just as they didn't care in March 1994, when they still did not have problems with nuclear power plants and the global warming.

Check out Sir Arthur Eddington on p. **2** and the *omnipresent* "**zero**" in ref. [23] on p. **21** in [CEN.pdf](#). Physicists interpret the latter as "absolute structures" [[Ref. 1](#)], but you can verify them with a simple experiment involving your brain: see p. **2** in [hi_numbers.pdf](#) and [Slide 11](#) in 'Quantum Spacetime'. Back in March 1994, this atemporal matrix ([Slide 8](#)) was dubbed MAVER; now it is BAVER (see [above](#)).

More from Max Planck below.

D. Chakalov
May 24, 2017
Latest update: June 30, 2017, 14:02 GMT

[[Ref. 1](#)] Domenico Giulini, Some remarks on the notions of general covariance and background independence, 22 March 2006, [arXiv:gr-qc/0603087v1](#).

p. 4: "Transition functions relabel the points that constitute M, which for the time being we think of as recognizable entities, as mathematicians do. (For physicists these points are mere 'potential events' ([Slide 6](#) – D.C.) and do not have an obvious individuality beyond an actual, yet unknown, event that realizes this potentiality.)

...

p. 11: "An absolute structure is a coordinate which takes the same range of values in each Diff(M) orbit and therefore cannot separate any two of them. If we regard Diff(M) as a gauge group, i.e. that Diff(M)-related configurations are physically indistinguishable, then absolute structures carry no observable content."

=====

Truth never triumphs - its [opponents](#) just die out.
Geheimrat [Max Planck](#)

Do not give dogs what is sacred; do not throw your [pearls](#) to pigs.
If you do, they may [trample them under their feet](#), and turn and tear you to pieces.

[Matthew 7:6](#)

Subject: Re: [arXiv:1706.00199v1 \[astro-ph.HE\]](#): No candidate electromagnetic counterparts was detected by either GBM or LAT.
In-Reply-To: <4394ED70-2BD7-4C68-9427-9CC6FFD9E65C@ligo.caltech.edu>
Date: Sun, 4 Jun 2017 21:00:21 +0000
Message-ID: <CAM7Ekxm20HPxKmAgZtju1bwzFNrETA5JGaRj_Kf69TRep+QrBg@mail.gmail.com>
From: Dimi Chakalov <dchakalov@gmail.com>
To: Eric Gustafson <egustafs@ligo.caltech.edu>, Steven Weinstein <sw@uwaterloo.ca>, Alan J Weinstein <ajw@caltech.edu>, Richard Price <rprice.physics@gmail.com>

Josh Goldberg <goldberg@phy.syr.edu>, Ronald J Adler <gyreron@gmail.com>, Karel V Kuchar <kuchar@physics.utah.edu>, Andrzej Mariusz Trautman <amt@fuw.edu.pl>, Kip <kip@tapir.caltech.edu>, Luc Blanchet <blanchet@iap.fr>, Bruce Allen <bruce.allen@aei.mpg.de>, Luciano <rezzolla@th.physik.uni-frankfurt.de>, Gary Horowitz <gary@physics.ucsb.edu>, David Garfinkle <garfinkl@oakland.edu>, Rainer Weiss <weiss@ligo.mit.edu>, Alessandra Buonanno <buonanno@physics.umd.edu>, Gabriela González <gonzalez@lsu.edu>, Stefano Vitale <vitale@science.unitn.it>, Charles Torre <charles.torre@usu.edu>, Chris Isham <c.isham@imperial.ac.uk>, Norbert Straumann <norbert.straumann@gmail.com>, Yuan K Ha <yuanha@temple.edu>, Daniel Kennefick <danielk@uark.edu>, Luca Bombelli <luca@phy.olemiss.edu>, Michele Maggiore <michele.maggiore@unige.ch>, Gerard Auger <auger@apc.univ-paris7.fr>, Eric Plagnol <plagnol@apc.univ-paris7.fr>, Remo <ruffini@icra.it>, Antoine Petiteau <antoine.petiteau@apc.univ-paris7.fr>, Alexandre Le Tiec <letiec@obspm.fr>, Jerome Novak <Jerome.Novak@obspm.fr>, Thibault Damour <damour@ihes.fr>, Alain Blanchard <alain.blanchard@ast.obs-mip.fr>, Jean-Philippe Uzan <uzan@iap.fr>, Lukas <lukas.ifsits@univie.ac.at>, Piotr <piotr.chrusciel@univie.ac.at>, Sergiu Klainerman <seri@math.princeton.edu>, Sascha Husa <sascha.husa@gmail.com>, Robert Beig <robert.beig@univie.ac.at>, Jörg Frauendiener <joergf@maths.otago.ac.nz>, Laszlo Szabados <lbszab@rmki.kfki.hu>, Adam Helfer <helfera@missouri.edu>, Greg Galloway <galloway@math.miami.edu>, John Baez <baez@math.ucr.edu>, Paul Tod <tod@maths.ox.ac.uk>, Domenico Giulini <giulini@itp.uni-hannover.de>, Jose Geraldo Pereira <jpereira@ift.unesp.br>, Robert Geroch <geroch@midway.uchicago.edu>, Demetrios Christodoulou <demetri@math.ethz.ch>, George Ellis <gfrellis@gmail.com>, Gian Michele Graf <gian-michele.graf@itp.phys.ethz.ch>, Helmut Friedrich <hef@aei.mpg.de>, John Stachel <john.stachel@gmail.com>, Ettore Minguzzi <ettore.minguzzi@unifi.it>, Lars Andersson <laan@aei.mpg.de>, Ezra Newman <newman@pitt.edu>, Christian Pfeifer <christian.pfeifer@itp.uni-hannover.de>, Sascha Husa <sascha.husa@uib.es>, Alan Rendall <rendall@uni-mainz.de>, Saul Teukolsky <saul@astro.cornell.edu>, Niall Murchadha <niall@ucc.ie>, Bernard Schutz <Bernard.Schutz@aei.mpg.de>, Eric Gourgoulhon <eric.gourgoulhon@obspm.fr>, David B Malament <dmalamen@uci.edu>, Erik Curiel <erik@strangebeautiful.com>, Xiao Zhang <xzhang@amss.ac.cn>, Mu-Tao Wang <mtwang@math.columbia.edu>, Mike Cruise <a.m.cruise@bham.ac.uk>, Christian Wuthrich <beyondspacetimeseminar@gmail.com>, Zhaoyan Wu <zhaoyanwu2000@yahoo.com>, Takashi Nakamura <takashi@tap.scphys.kyoto-u.ac.jp>, Hiroyuki Nakano <hinakano@yukawa.kyoto-u.ac.jp>, Tomoya Kinugawa <kinugawa@tap.scphys.kyoto-u.ac.jp>, Tetsuya Shiromizu <shiromizu@math.nagoya-u.ac.jp>, Tatsuya Matsumoto <matsumoto@tap.scphys.kyoto-u.ac.jp>, Avneet <avneet.singh@aei.mpg.de>, Maria Alessandra Papa <maria.alessandra.papa@aei.mpg.de>, Jean-Pierre Bourguignon <jpb@ihes.fr>, Heinz-Bernd Eggenstein <heinz-bernd.eggenstein@aei.mpg.de>, Emanuele <berti@wugrav.wustl.edu>, Clifford Will <cmw@wuphys.wustl.edu>, William G Unruh <unruh@physics.ubc.ca>, David Shoemaker <dhs@mit.edu>, Stan Whitcomb <stan.whitcomb@ligo.org>, Deirdre Shoemaker <deirdre.shoemaker@physics.gatech.edu>, Damien Texier <contactesa@esa.int>, C Y Lo <chungy.lo@gmail.com>, Jose Rodriguez <jose.rodriguez2@correo.uis.edu.co>, Jorge Rueda <jorge.rueda@icra.it>, Nigel <n.bishop@ru.ac.za>, Rosalba Perna <rosalba.perna@stonybrook.edu>, Abraham Loeb <aloeb@cfa.harvard.edu>, Valerie Connaughton <valerie@nasa.gov>, abbot_b@ligo.caltech.edu, anderson_s@ligo.caltech.edu, Gustav <g.holzegel@imperial.ac.uk>, barish_b@ligo.caltech.edu, sarah.gossan@tapir.caltech.edu, JulieHiroto LIGO <jhiroto@ligo.caltech.edu>, Kenneth Libbrecht <kgl@caltech.edu>, Bob Taylor <taylor_r@ligo.caltech.edu>, yamamoto_h@ligo.caltech.edu, zweizig_j@ligo.caltech.edu, swang5@caltech.edu, zhang_l@ligo.caltech.edu, Mike <zucker_m@ligo.mit.edu>, Joan Centrella <joan.centrella@nasa.gov>, Marco <marco.drago@aei.mpg.de>, Adrian Cho <acho@aaas.org>, Mark Hannam <markodh@googlemail.com>, Pedro Marronetti <pmarrone@nsf.gov>, Lee Samuel Finn <lsfinn@psu.edu>, Beverly Berger <grgsocietymail@gmail.com>, César García Marirrodriga <Cesar.Garcia@esa.int>, Paul McNamara <paul.mcnamara@esa.int>, Ian Harrison <ian.harrison@esa.int>, Jake Mattinson <fersotj@gmail.com>

Cc: Melissa <melissa.pesce.rollins@pi.infn.it>

Eric dorogoi,

You are indeed Russian,

<http://www.god-does-not-play-dice.net/russian.html>

> Please remove me from your email list.

Only after you become *completely* senile and cannot read English.

http://www.god-does-not-play-dice.net/gw_miracles.pdf

http://www.god-does-not-play-dice.net/Penrose_diagram.pdf

D. Chakalov

chakalov.net

>> On Jun 3, 2017, at 3:09 PM, Dimi Chakalov <dchakalov@gmail.com> wrote:

>>

>> Melissa:

>>

>> You will never find any electromagnetic counterparts for any GW

>> "event" from Advanced LIGO/VIRGO.

>>

>> It is a **F R A U D** .

>>

>> Do you read English? Check out p. 15 in

>> http://www.god-does-not-play-dice.net/gwa_rip.pdf

>>

>> Don't ever claim that you knew nothing about it.

>>

>> D. Chakalov

>> chakalov.net

>

=====

Subject: **Fraud --> jail.**

Date: Thu, 29 Jun 2017 23:57:58 +0000

Message-ID: <CAM7Ekx=0y-716-w19GGUV4GTYJ00u=XfVF+RT9NqWKxC4rxHbQ@mail.gmail.com>

From: Dimi Chakalov <dchakalov@gmail.com>

To: LIGO Spokesperson David Shoemaker <dhs@mit.edu> ,

LIGO Deputy Spokesperson Laura Cadonati <cadonati@gatech.edu> , Melissa

<melissa.pesce.rollins@pi.infn.it> , Eric Gustafson <egustafs@ligo.caltech.edu> , Steven

Weinstein <sw@uwaterloo.ca> , Alan J Weinstein <ajw@caltech.edu> , Richard Price

<rprice.physics@gmail.com> , Josh Goldberg <goldberg@phy.syr.edu> , Ronald J Adler

<gyreron@gmail.com> , Karel V Kuchar <kuchar@physics.utah.edu> , Andrzej Mariusz

Trautman <amt@fuw.edu.pl> , Kip <kip@tapir.caltech.edu> , Luc Blanchet

<blanchet@iap.fr> , Bruce Allen <bruce.allen@aei.mpg.de> , Luciano

<rezzolla@th.physik.uni-frankfurt.de> , Gary Horowitz <gary@physics.ucsb.edu> , David

Garfinkle <garfinkl@oakland.edu> , Rainer Weiss <weiss@ligo.mit.edu> , Alessandra

Buonanno <buonanno@physics.umd.edu> , Gabriela González <gonzalez@lsu.edu> ,

Stefano Vitale <vitale@science.unitn.it> , Charles Torre <charles.torre@usu.edu> , Chris

Isham <c.isham@imperial.ac.uk> , Norbert Straumann <norbert.straumann@gmail.com> ,

Yuan K Ha <yuanha@temple.edu> , Daniel Kenefick <danielk@uark.edu> , Luca Bombelli

<luca@phy.olemiss.edu> , Michele Maggiore <michele.maggiore@unige.ch> , Gerard Auger

<auger@apc.univ-paris7.fr> , Eric Plagnol <plagnol@apc.univ-paris7.fr> , Remo

<ruffini@icra.it> , Antoine Petiteau <antoine.petiteau@apc.univ-paris7.fr> , Alexandre Le

Tiec <letiec@obspm.fr> , Jerome Novak <Jerome.Novak@obspm.fr> , Thibault Damour

<damour@ihes.fr> , Alain Blanchard <alain.blanchard@ast.obs-mip.fr> , uzan@iap.fr,

Lukas <lukas.ifsits@univie.ac.at>, Piotr <piotr.chrusciel@univie.ac.at>, Sergiu Klainerman <seri@math.princeton.edu>, Sascha Husa <sascha.husa@gmail.com>, Robert Beig <robert.beig@univie.ac.at>, Jörg Frauendiener <joergf@maths.otago.ac.nz>, Laszlo Szabados <lszab@rmki.kfki.hu>, Adam Helfer <helfera@missouri.edu>, Greg Galloway <galloway@math.miami.edu>, John Baez <baez@math.ucr.edu>, Paul Tod <tod@maths.ox.ac.uk>, Domenico Giulini <giulini@itp.uni-hannover.de>, Jose Geraldo Pereira <jpereira@ift.unesp.br>, Robert Geroch <geroch@midway.uchicago.edu>, Demetrios Christodoulou <demetri@math.ethz.ch>, George Ellis <gfrellis@gmail.com>, Gian Michele Graf <gian-michele.graf@itp.phys.ethz.ch>, Helmut Friedrich <hef@aei.mpg.de>, John Stachel <john.stachel@gmail.com>, Ettore Minguzzi <ettore.minguzzi@unifi.it>, Lars Andersson <laan@aei.mpg.de>, Ezra Newman <newman@pitt.edu>, Christian Pfeifer <christian.pfeifer@itp.uni-hannover.de>, Sascha Husa <sascha.husa@uib.es>, Alan Rendall <rendall@uni-mainz.de>, Saul Teukolsky <saul@astro.cornell.edu>, Niall Murchadha <niall@ucc.ie>, Bernard Schutz <Bernard.Schutz@aei.mpg.de>, Ericourgoulhon <eric.gourgoulhon@obspm.fr>, David B Malament <dmalamen@uci.edu>, Erik Curiel <erik@strangebeautiful.com>, Xiao Zhang <xzhang@amss.ac.cn>, Mu-Tao Wang <mtwang@math.columbia.edu>, Mike Cruise <a.m.cruise@bham.ac.uk>, Christian Wuthrich <beyondspacetimeseminar@gmail.com>, Zhaoyan Wu <zhaoyanwu2000@yahoo.com>, Takashi Nakamura <takashi@tap.scphys.kyoto-u.ac.jp>, Hiroyuki Nakano <hinakano@yukawa.kyoto-u.ac.jp>, Tomoya Kinugawa <kinugawa@tap.scphys.kyoto-u.ac.jp>, Tetsuya Shiromizu <shiromizu@math.nagoya-u.ac.jp>, Tatsuya Matsumoto <matsumoto@tap.scphys.kyoto-u.ac.jp>, Avneet <avneet.singh@aei.mpg.de>, Maria Alessandra Papa <maria.alessandra.papa@aei.mpg.de>, Jean-Pierre Bourguignon <jpb@ihes.fr>, Heinz-Bernd Eggenstein <heinz-bernd.eggenstein@aei.mpg.de>, Emanuele <berti@wugrav.wustl.edu>, Clifford Will <cmw@wuphys.wustl.edu>, William G Unruh <unruh@physics.ubc.ca>, Stan Whitcomb <stan.whitcomb@ligo.org>, Deirdre Shoemaker <deirdre.shoemaker@physics.gatech.edu>, Damien Texier <contactesa@esa.int>, C Y Lo <chungy.lo@gmail.com>, Jose Rodriguez <jose.rodriguez2@correo.uis.edu.co>, Jorge Rueda <jorge.rueda@icra.it>, Nigel <n.bishop@ru.ac.za>, Rosalba Perna <rosalba.perna@stonybrook.edu>, Abraham Loeb <aloeb@cfa.harvard.edu>, Valerie Connaughton <valerie@nasa.gov>, abbott_b@ligo.caltech.edu, anderson_s@ligo.caltech.edu, Gustav <g.holzegel@imperial.ac.uk>, barish_b@ligo.caltech.edu, sarah.gossan@tapir.caltech.edu, JulieHiroto LIGO <jhiroto@ligo.caltech.edu>, Kenneth Libbrecht <kgl@caltech.edu>, Bob Taylor <taylor_r@ligo.caltech.edu>, yamamoto_h@ligo.caltech.edu, zweizig_j@ligo.caltech.edu, swang5@caltech.edu, zhang_l@ligo.caltech.edu, Mike <zucker_m@ligo.mit.edu>, Joan Centrella <joan.centrella@nasa.gov>, Marco <marco.drago@aei.mpg.de>, Adrian Cho <acho@aaas.org>, Mark Hannam <markodh@googlemail.com>, Pedro Marronetti <pmarrone@nsf.gov>, Lee Samuel Finn <lsfinn@psu.edu>, Beverly Berger <grgsocietymail@gmail.com>, César García Marirrodriga <Cesar.Garcia@esa.int>, Paul McNamara <paul.mcnamara@esa.int>, Ian Harrison <ian.harrison@esa.int>, Jake Mattinson <fersotj@gmail.com>

David Shoemaker:

You and your LIGO colleagues should be aware that all your "GW events" could be nothing but fraud: check out readme.html in

<http://www.god-does-not-play-dice.net/chakalov.zip>
(13,246,184 bytes, 29 June 2017)

Don't even think that I will let you abuse Einstein's GR any more.

D. Chakalov
chakalov.net

NOTE

See Robert Wald and the experiments with a plastic bottle on pp. 79-80 [above](#). Again, if you order a pizza, it will exist 'out there' as *physical* pizza before being delivered to your door step and you eat it viz. place *the same* physical pizza in the right-hand side of Einstein's field equations. Thus, gravity is not a physical field, yet it interacts with all physical stuff that is the *source* of gravity, yielding *gravitational radiation*.

Einstein and his colleagues were fully aware of this conundrum ever since the inception of GR: read p. 6 in [holon.pdf](#) and [readme.html](#) in [chakalov.zip](#). If you join LIGO "scientific" collaboration and postulate energy-momentum tensor of GWs, you will **abuse** Einstein's GR. Check out again the experiments with a plastic bottle on pp. 79-80 [above](#). Period.

[D. Chakalov](#)
July 3, 2017

=====

Subject: Re: [Fraud --> jail](#).
Date: Wed, 5 Jul 2017 01:35:13 +0000
Message-ID: <CAM7EkxmNxFBCU+-iV2V-BFtT3P+8SA9RujENAY8WaQh54xPA6g@mail.gmail.com>
From: Dimi Chakalov <dchakalov@gmail.com>
To: LIGO Spokesperson David Shoemaker <dhs@mit.edu>,
LIGO Deputy Spokesperson Laura Cadonati <cadonati@gatech.edu>,
[[snip](#)]

P.S. To read more about your FRAUD, check out [readme.html](#) in
<http://www.god-does-not-play-dice.net/chakalov.zip>
(13,495,007 bytes, 5 July 2017)

Do you have good lawyers?

D.C.

On Thu, 29 Jun 2017 23:57:58 +0000, Dimi Chakalov <dchakalov@gmail.com> wrote:
[[snip](#)]

=====

Subject: TianQin: Message to Prof. Jun LUO
Date: Wed, 12 Jul 2017 12:31:39 +0000
Message-ID: <CAM7EkxnebrSwMjfLeEWZGFXorOaDvQwKuu_wzZqrep2xVZeGTQ@mail.gmail.com>
From: Dimi Chakalov <dchakalov@gmail.com>
To: rsczzky@mail.sysu.edu.cn, edf@mail.sysu.edu.cn,
heuer@mail.sysu.edu.cn, wjiawen@mail.sysu.edu.cn

[please pass this message to Prof. Jun LUO]

Dear Professor Luo,

Please be aware that the alleged "GW events" could be nothing but fraud: check out readme.html in

<http://www.god-does-not-play-dice.net/chakalov.zip>
(13,623,429 bytes, 12 July 2017)

I will be happy to elaborate on the fraud executed by Kip Thorne and his LIGO collaborators.

Yours sincerely,

Dimi Chakalov
chakalov.net

=====

Subject: KAGRA and IndIGO
Date: Wed, 12 Jul 2017 12:35:57 +0000
Message-ID: <CAM7EkxniSMedovnfG_2nqsLTsToo9ZPm4GNXfov=sVLjAyLc=g@mail.gmail.com>
From: Dimi Chakalov <dchakalov@gmail.com>
To: Takaaki Kajita <kajita@icrr.u-tokyo.ac.jp>,
Masatake Ohashi <ohashi@icrr.u-tokyo.ac.jp>,
Seiji Kawamura <seiji@icrr.u-tokyo.ac.jp>,
Bala Iyer <bri@rri.res.in>,
Tarun Souradeep <tarun@iucaa.ernet.in>,
Sanjeev Dhurandhar <sanjeev@iucaa.ernet.in>

Dear Colleagues,

Please be aware that the alleged "GW events" could be nothing but fraud: check out readme.html in

<http://www.god-does-not-play-dice.net/chakalov.zip>
(13,623,429 bytes, 12 July 2017)

I stand ready to elaborate on the fraud executed by Kip Thorne and his LIGO collaborators.

Yours sincerely,

Dimi Chakalov
chakalov.net

=====

Subject: Re: [LDG #8859] Gravitational Wave Astronomy: RIP
Date: Wed, 12 Jul 2017 19:45:15 +0000
Message-ID: <CAM7EkxktHat6aQK2J2Ap+=Ar67EoSFnkL2kngvSFjBfY-ve96w@mail.gmail.com>
From: Dimi Chakalov <dchakalov@gmail.com>

To: LIGO Spokesperson David Shoemaker <dhs@mit.edu>, LIGO Deputy Spokesperson Laura Cadonati <cadonati@gatech.edu>, Eric Gustafson <egustafs@ligo.caltech.edu>, Alan J Weinstein <ajw@caltech.edu>, David Reitze <reitze@ligo.caltech.edu>, osc@ligo.org, LSC Education and Public Outreach Group <lsc-epo@ligo.org>, Marco Cavaglia <marco.cavaglia@ligo.org>, gabriela.gonzalez@ligo.org, hiroto_j@ligo.caltech.edu, LSC Web Team <lsc-webcomm@ligo.org>, Kip <kip@tapir.caltech.edu>, Rainer Weiss <weiss@ligo.mit.edu>, Steven Weinberg <weinberg@physics.utexas.edu>, abbot_b@ligo.caltech.edu, anderson_s@ligo.caltech.edu, barish_b@ligo.caltech.edu, sarah.gossan@tapir.caltech.edu, gustafson_e@ligo.caltech.edu, JulieHiroto LIGO <jhiroto@ligo.caltech.edu>, Kenneth Libbrecht <kgl@caltech.edu>, Bob Taylor <taylor_r@ligo.caltech.edu>, yamamoto_h@ligo.caltech.edu, zweizig_j@ligo.caltech.edu, swang5@caltech.edu, zhang_l@ligo.caltech.edu, Mike <zucker_m@ligo.mit.edu>, Emanuele <berti@wugrav.wustl.edu>, Bruce Allen <bruce.allen@aei.mpg.de>, Karsten <karsten.danzmann@aei.mpg.de>, Bernard Schutz <Bernard.Schutz@aei.mpg.de>, Clifford Will <cmw@wuphys.wustl.edu>, Oliver Jennrich <oliver.jennrich@esa.int>, Adrian Cho <acho@aaas.org>, Joan Centrella <Joan.Centrella@nasa.gov>, Mark Hannam <markodh@googlemail.com>, Pedro Marronetti <pmarrone@nsf.gov>, Bernd Brügmann <b.bruegmann@tpi.uni-jena.de>, Lee Samuel Finn <lsfinn@psu.edu>, Beverly Berger <grgsocietymail@gmail.com>, Luciano <rezzolla@th.physik.uni-frankfurt.de>, César García Marirrodriga <Cesar.Garcia@esa.int>, Paul McNamara <paul.mcnamara@esa.int>, Ian Harrison <ian.harrison@esa.int>, Damien Texier <contactesa@esa.int>, Charles Dunn <Charles.E.Dunn@jpl.nasa.gov>, Philippe Jetzer <jetzer@physik.uzh.ch>, Eric Plagnol <eric.plagnol@apc.univ-paris7.fr>, Carlos Sopena <sopena@ieec.uab.es>, Ira Thorpe <james.i.thorpe@nasa.gov>, Benjamin Knispel <benjamin.knispel@aei.mpg.de>, Martin Hewitson <hewitson@aei.mpg.de>, SciTech.Editorial@esa.int

NB: The proof that you are dilettantes is in readme.html in

<http://www.god-does-not-play-dice.net/chakalov.zip>
(13,6676,438 bytes, 12 July 2017)

Don't feel obliged to reply.

D.C.

On Wed, 9 Mar 2016 03:02:19 +0000, Dimi Chakalov <dchakalov@gmail.com> wrote:

>
> P.S. You're dilettantes. GW150914 was an overkill.
>
> You shouldn't have made it *that* perfect.
>
> D.C.
>

=====
Subject: **LIGO is for the birds.**

Date: Tue, 18 Jul 2017 15:30:42 +0000

Message-ID: <CAM7EkxnYfWYLDEfRc=gHKBz6UPhKAhBEQ4ez_WvSP2Pg3SW8LQ@mail.gmail.com>

From: Dimi Chakalov <dchakalov@gmail.com>

To: Kip <kip@tapir.caltech.edu>, Piotr <piotr.chrusciel@univie.ac.at>

Cc: LIGO Spokesperson David Shoemaker <dhs@mit.edu>, LIGO Deputy Spokesperson Laura Cadonati <cadonati@gatech.edu>, Eric Gustafson <egustafs@ligo.caltech.edu>, Alan J Weinstein <ajw@caltech.edu>, David Reitze <reitze@ligo.caltech.edu>, osc@ligo.org, LSC Education and Public Outreach Group <lsc-epo@ligo.org>, Marco Cavaglia <marco.cavaglia@ligo.org>, gabriela.gonzalez@ligo.org, hiroto_j@ligo.caltech.edu, LSC Web Team <lsc-webcomm@ligo.org>, Rainer Weiss <weiss@ligo.mit.edu>, Steven Weinberg <weinberg@physics.utexas.edu>, abbot_b@ligo.caltech.edu, anderson_s@ligo.caltech.edu, barish_b@ligo.caltech.edu, sarah.gossan@tapir.caltech.edu, gustafson_e@ligo.caltech.edu, JulieHiroto LIGO <jhiroto@ligo.caltech.edu>, Kenneth Libbrecht <kgl@caltech.edu>, Bob Taylor <taylor_r@ligo.caltech.edu>, yamamoto_h@ligo.caltech.edu, zweizig_j@ligo.caltech.edu, swang5@caltech.edu, zhang_l@ligo.caltech.edu, Mike <zucker_m@ligo.mit.edu>, Emanuele <berti@wugrav.wustl.edu>, Bruce Allen <bruce.allen@aei.mpg.de>, Karsten <karsten.danzmann@aei.mpg.de>, Bernard Schutz <Bernard.Schutz@aei.mpg.de>, Clifford Will <cmw@wuphys.wustl.edu>, Oliver Jennrich <oliver.jennrich@esa.int>, Adrian Cho <acho@aaas.org>, Joan Centrella <Joan.Centrella@nasa.gov>, Mark Hannam <markodh@googlemail.com>, Pedro Marronetti <pmarrone@nsf.gov>, Bernd Brügmann <b.bruegmann@tpi.uni-jena.de>, Lee Samuel Finn <lsfinn@psu.edu>, Beverly Berger <grgsocietymail@gmail.com>, Luciano <rezzolla@th.physik.uni-frankfurt.de>, César García Marirrodriga <Cesar.Garcia@esa.int>, Paul McNamara <paul.mcnamara@esa.int>, Ian Harrison <ian.harrison@esa.int>, Damien Texier <contactesa@esa.int>, Charles Dunn <Charles.E.Dunn@jpl.nasa.gov>, Philippe Jetzer <jetzer@physik.uzh.ch>, Eric Plagnol <eric.plagnol@apc.univ-paris7.fr>, Carlos Sopena <sopena@ieec.uab.es>, Ira Thorpe <james.i.thorpe@nasa.gov>, Benjamin Knispel <benjamin.knispel@aei.mpg.de>, Martin Hewitson <hewitson@aei.mpg.de>, SciTech.Editorial@esa.int, Takaaki Kajita <kajita@icrr.u-tokyo.ac.jp>, Masatake Ohashi <ohashi@icrr.u-tokyo.ac.jp>, Seiji Kawamura <seiji@icrr.u-tokyo.ac.jp>, Bala Iyer <bri@rri.res.in>, Tarun Souradeep <tarun@iucaa.ernet.in>, Sanjeev Dhurandhar <sanjeev@iucaa.ernet.in>, Jörg Frauendiener <joergf@maths.otago.ac.nz>, Laszlo Szabados <lbszab@rmki.kfki.hu>, Adam Helfer <helfera@missouri.edu>, Greg Galloway <galloway@math.miami.edu>, John Baez <baez@math.ucr.edu>, Paul Tod <tod@maths.ox.ac.uk>, Domenico Giulini <giulini@itp.uni-hannover.de>, Jose Geraldo Pereira <jpereira@ift.unesp.br>, Robert Geroch <geroch@uchicago.edu>, Niall Murchadha <niall@ucc.ie>, Norbert Straumann <norbert.straumann@gmail.com>, Alan Rendall <rendall@uni-mainz.de>, Carla Cederbaum <cederbaum@math.uni-tuebingen.de>, Carlo Rovelli <rovelli.carlo@gmail.com>, Catherine Meusburger <catherine.meusburger@gmail.com>, Cecilia Flori <cflori@perimeterinstitute.ca>, Daniele Oriti <doriti@aei.mpg.de>, David B Malament <dmalamen@uci.edu>, Ettore Minguzzi <ettore.minguzzi@unifi.it>, Evangelos Melas <emelas@econ.uoa.gr>, Eanna Flanagan <flanagan@astro.cornell.edu>, Gary Horowitz <gary@physics.ucsb.edu>, George Ellis <gfrellis@gmail.com>, Gian Michele Graf <gian-michele.graf@itp.phys.ethz.ch>, Chris Isham <c.isham@imperial.ac.uk>, Karel V Kuchar <kuchar@physics.utah.edu>

Kip and Piotr:

LIGO is for the birds. I quoted from your papers (excerpts attached) in readme.html in

<http://www.god-does-not-play-dice.net/chakalov.zip>

(14,080,215 bytes, 18.07.2017)

D. Chakalov

[chakalov.net](http://www.god-does-not-play-dice.net/chakalov.net)

--

http://www.god-does-not-play-dice.net/kip_slide_5.jpg

http://www.god-does-not-play-dice.net/energy_GR.jpg

=====
Subject: The TT-method in [GW parapsychology](#)
Date: Wed, 26 Jul 2017 10:31:51 +0000
Message-ID: <CAM7EkxnJGrr3NMpkSvTotzSK9F7BPEfSiaAqiaqePffEXpLN-Q@mail.gmail.com>
From: Dimi Chakalov <dchakalov@gmail.com>
To: Béatrice Bonga <bpb165@psu.edu>
Cc: Aruna Kesavan <aok5232@psu.edu>, Foteini Oikonomou <oikonomou@psu.edu>, Eric <epoisson@uoguelph.ca>, Matt <matt.lake@gmail.com>, Brien <brien.nolan@dcu.ie>, Melissa <melissa.pesce.rollins@pi.infn.it>, Michele <michele.maggiore@unige.ch>, Jose Rodriguez <jose.rodriguez2@correo.uis.edu.co>, Jorge Rueda <jorge.rueda@icra.it>, Nigel <n.bishop@ru.ac.za>, Rosalba Perna <rosalba.perna@stonybrook.edu>, Abraham Loeb <aloeb@cfa.harvard.edu>, Valerie Connaughton <valerie@nasa.gov>, Beverly Berger <grgsocietymail@gmail.com>, César García Marirrodriaga <Cesar.Garcia@esa.int>, Paul McNamara <paul.mcnamara@esa.int>, Ian Harrison <ian.harrison@esa.int>, Abby <ashtekar@gravity.psu.edu>

Dear Béatrice:

I quoted from your latest [arXiv:1707.07729v1 \[gr-qc\]](#) in readme.html in <http://www.god-does-not-play-dice.net/chakalov.zip> (13,914,778 bytes, 26 July 2017)

Don't waste your time with [GW parapsychology](#). Nobody (Abby included) can "develop viable theoretical frameworks to describe gravitational radiation from compact sources that are embedded in our cosmological -- rather than asymptotically Minkowskian -- space-time."

I will be more than happy to elaborate -- check out my website below.

All the best,

Dimi

--

D. Chakalov
chakalov.net

NOTE

Béatrice Bonga and Abby Ashtekar (excerpt [here](#)) are doomed to fail for three reasons: (i) the linearized approximation of GR is not applicable to gravitational radiation *in principle* (Herrmann Weyl, ref. [3] in [gwa_rip.pdf](#) and [Jose Pereira](#)), (ii) the case of Hulse-Taylor pulsar requires that the radius of the *observable* universe must be at least 10^{90} km, which is sheer nonsense (p. 2 in [Schutz.pdf](#)), and (iii) nobody can install GW "mirrors" at null-and-spacelike infinity ([Penrose diagram.pdf](#)), as mentioned [above](#). LIGO is for the birds.

D. Chakalov
July 26, 2017

Subject: Gravity-Matter Duality
Date: Sun, 30 Jul 2017 17:48:40 +0000
Message-ID: <CAM7Ekx=RtORwSYkTSn0-EUDuTS4D0TOfpo06izn-9_86Qj_dUQ@mail.gmail.com>
From: Dimi Chakalov <dchakalov@gmail.com>
To: Jeremy Dunning-Davies <J.Dunning-Davies@hull.ac.uk>,
Zhao-Yan Wu <zhaoyanwu2000@yahoo.com>,
Paul Steinhardt <steinh@princeton.edu>,
Xiao Zhang <xzhang@amss.ac.cn>,
Laszlo Szabados <lbszab@rmki.kfki.hu>,
George Ellis <gfrellis@gmail.com>,
Adam Helfer <helfera@missouri.edu>,
Karel V Kuchar <kuchar@physics.utah.edu>,
Chris Isham <c.isham@imperial.ac.uk>,
Hans Ohanian <hohanian@uvm.edu>,
James M Nester <nester@phy.ncu.edu.tw>,
Sean Hayward <sean_a_hayward@yahoo.co.uk>,
Jörg Frauendiener <joergf@maths.otago.ac.nz>,
Yuan K Ha <yuanha@temple.edu>,
Norbert Straumann <norbert.straumann@gmail.com>,
William G Unruh <unruh@physics.ubc.ca>,
Robert Geroch <geroch@midway.uchicago.edu>,
Robert M Wald <rmwa@midway.uchicago.edu>,
Gary Horowitz <gary@physics.ucsb.edu>

http://www.god-does-not-play-dice.net/gm_duality.pdf
(3 pages, 30 July 2017)

Details at my website below.

D. Chakalov
chakalov.net

=====

Subject: Parameterization of time by null geometry?
Date: Mon, 14 Aug 2017 11:41:58 +0000
Message-ID: <CAM7Ekxk5epa6Jgw1u0Yu9cvP43y3MNNFWph2wJUR=K36cNOYAQ@mail.gmail.com>
From: Dimi Chakalov <dchakalov@gmail.com>
To: Henri Roesch <henri.roesch@gmail.com>,
Hubert L Bray <hubert.bray@duke.edu>
Cc: Karel V Kuchar <kuchar@physics.utah.edu>,
John Stachel <john.stachel@gmail.com>,
Jose M M Senovilla <josemm.senovilla@ehu.es>,
Gary Horowitz <gary@physics.ucsb.edu>,
Carlo <rovelli.carlo@gmail.com>,
James M Nester <nester@phy.ncu.edu.tw>,
Sean Hayward <sean_a_hayward@yahoo.co.uk>,
Domenico Giulini <giulini@itp.uni-hannover.de>,
Richard M Schoen <schoen@math.stanford.edu>,
Erik Curiel <erik@strangebeautiful.com>,
Sergiu Klainerman <seri@math.princeton.edu>,
Piotr T Chrusciel <piotr.chrusciel@univie.ac.at>,
Robert M Wald <rmwa@midway.uchicago.edu>,
Gustav <g.holzegel@imperial.ac.uk>,

George Ellis <gfrellis@gmail.com>,
Xiao Zhang <xzhang@amss.ac.cn>,
Chris Isham <c.isham@imperial.ac.uk>,
Gian Michele Graf <gian-michele.graf@itp.phys.ethz.ch>,
Paul Tod <tod@maths.ox.ac.uk>,
Ezra Newman <newman@pitt.edu>,
Sascha Husa <sascha.husa@gmail.com>,
David B Malament <dmalamen@uci.edu>,
Jörg Frauendiener <joergf@maths.otago.ac.nz>,
Laszlo Szabados <lbszab@rmki.kfki.hu>,
Adam Helfer <helfera@missouri.edu>,
Greg Galloway <galloway@math.miami.edu>,
Robert Geroch <geroch@uchicago.edu>,
Dieter R Brill <brill@umd.edu>

Dear Henri and Hubert,

Thank you for your very intriguing paper from August 2nd [[Ref. 1](#)], which I am still unable to understand. If possible, may I ask you for help.

In order to (eventually) understand the positivity of mass in GR, I believe we could try to understand time in GR,
http://www.god-does-not-play-dice.net/Rovelli_p84.jpg

Imagine standing inside some [3-sphere](#) in some spacetime, for example the volume of the Earth, and collecting all light rays hitting the entire volume *en bloc* at "a particular point in time" [[Ref. 1](#), p. 1], $t_1, t_2, t_3, \dots, t_n, \dots$.

Is such time observable by a physical clock?

If your answer is 'yes and no', please elaborate with the balloon analogy, Fig. 4 in 'Gravity-Matter Duality',
http://www.god-does-not-play-dice.net/gm_duality.pdf

Thank you for your time. I will be happy to learn the opinion of your colleagues as well.

All the best,

Dimi

--

D. Chakalov
chakalov.net

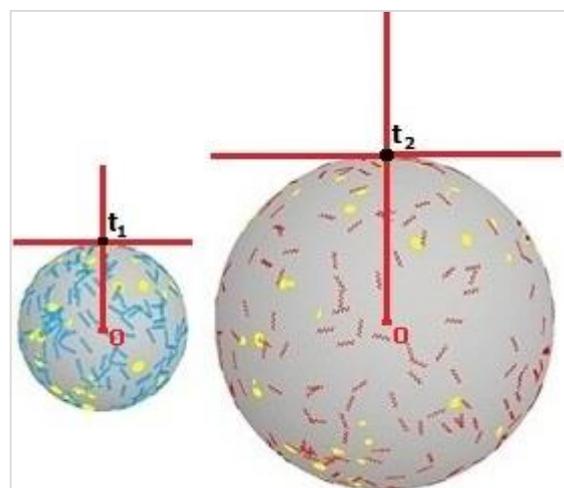
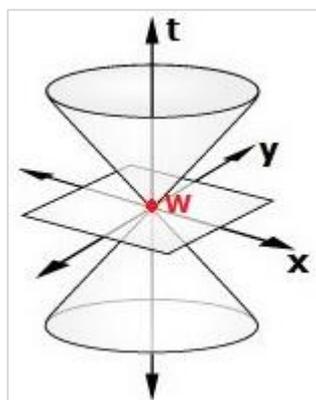
[Ref. 1] Hubert L. Bray, Henri P. Roesch, Null Geometry and the Penrose Conjecture, 2 August 2017, arXiv:1708.00941v1 [gr-qc].
<https://arxiv.org/abs/1708.00941v1>

NOTE

On March 14, 2004, commemorating Einstein's 125th birthday, I posted at my old (and [already inactive](#)) website the motto of my theory of quantum gravity: 'Your Global Time is **ZERO**'. Check out the excerpt from Sunday, 20 October 2013, at [this http URL](#). For over three years, from October 2013 until Christmas 2016, I contacted hundreds of theoretical physicists and mathematicians, but nobody responded — see [p. 81](#), [pp. 82-83](#), and p. **20**

in [hi_numbers.pdf](#). My email from 14 August 2017 [above](#) was met with the same dark silence. I only said that cannot understand [[Ref. 1](#)] and asked for help. Here's why.

Null geometry is a very strange, one-of-a-kind animal. Mathematically, you are invited to ponder on the differences between two [empty sets](#) (\emptyset), like the set of bananas you've stuck in your ears and — at the same instant — the set of cucumbers you've stuck in your ears. We cannot use [3-sphere](#) to show the null geometry "inside" every **4D** event 'here and now' ([Fig. 3.1](#)), so we use 2-surface (like 2D images on [cinema screen](#)) to model the *surface* of 3D balloon with center **0** ([Fig. 4](#)), which is "expanding" due to some "dark energy" from the [vacuum](#). The two empty sets (components of the *atemporal axis* **W**, see [below](#)) from null geometry are depicted with two **red** lines, normal and tangential. Their **black** (physical) footprints t_1 and t_2 belong to the time from the cosmological [scale factor](#) ($t_1 < t_2$), yet photon's *proper* time ($t_2 - t_1$) is **zero** ("will not have aged", [Wikipedia](#)) due to the "speed" of light (**A2** in [Slide 19](#)). Notice that Fig. 4 corresponds only to the lower ("south") section of the main drawing [below](#), and also that the balloon center **0** located "inside" **W** does *not* belong to the physical world. Unlike t_1 and t_2 , the center **0** placed "inside" **W** (Case **IV** in Table 1 on p. 14 in [spacetime.pdf](#)) is at *absolute* rest and can never be highlighted by the "torch" [below](#).



[H. Minkowski](#): Event 'here and now' **W**

See Fig. 4, p. 5 in '[Gravity-Matter Duality](#)'

At every event 'here and now' **W** viz. t_1 and t_2 , the two [light-like red](#) components of the atemporal axis **W** (see [below](#)) are *already re-nullified* (**A2** in [Slide 19](#)): read [here](#).

The two empty sets from null geometry, shown with normal and tangential **red** lines in Fig. 4 above, are mathematically different. As Piotr Chrusciel explained (*Lectures on Energy in General Relativity*, 22 February 2013, [p. 226](#)):

A.14 Null hyperplanes and hypersurfaces

One of the objects that occur in Lorentzian geometry and which posses rather disturbing properties are *null hyperplanes* and *null hypersurfaces*, and it appears useful to include a short discussion of those. Perhaps the most unusual feature of such objects is that the direction normal is actually tangential as well. Furthermore, because the normal has no natural normalization, there is no natural measure induced on a null hypersurface by the ambient metric.

Also from James Hartle (*Gravity: An Introduction to Einstein's General Relativity*, Addison-Wesley, 2003, [p. 162](#)):

Null Surfaces

Surfaces generated by light rays are another important class of three-surfaces called *null surfaces*. At each point in a null surface, there is one tangent direction ℓ that points along a light ray and is null,

$$\ell \cdot \ell = 0, \quad (7.79)$$

and two orthogonal independent spacelike directions. The null direction ℓ is a normal to the null surface because it is orthogonal to the spacelike directions and also to itself by virtue of (7.79). A normal to a null surface is a null vector that lies in it.

Now, instead of foliating spacetime only with a “family” of spacelike hypersurfaces (e.g., Eric Gourgoulhon, [arXiv:gr-qc/0703035v1](#), see his Fig. 3.1 [below](#)), use also null surfaces (see my email from 14 August 2017 [above](#)):

Imagine standing inside some [3-sphere](#) in some spacetime, for example the volume of the Earth, and [collecting](#) all light rays hitting the entire volume *en bloc* at “a particular point in time” [[Ref. 1](#), p. 1], $t_1, t_2, t_3, \dots, t_n, \dots$.

Is such time observable by a physical clock?

Nope. ‘Your Global Time is **ZERO**’ ([pp. 82-83](#)), because every time you look at the world, the hyperimaginary axis **W** has been *already* (Sic!) **nullified**: you cannot look *twice* at the same river (Heraclitus, [Slide 13](#)). The local (physical) time, presented *only* along [timelike intervals](#), is accessible to inanimate [clocks](#). It corresponds to a *pair* of non-zero timelike “vectors”, [positive](#) and [negative](#), which are expected (by the author of these lines) to have also global (nonlocal) **nullified** hyperimaginary components (p. **6** and Fig. **4** in [CEN.pdf](#)), accessible by living (e.g., the [human brain](#)) and quantum-gravitational systems. Check out the example with five different pizzas in p. **9** in ‘[Gravity-Matter Duality](#)’ — they belong to five (not one) “**frozen**” block universes, and in every such universe the five pizzas are [Lorentz covariant](#) and [CPT-invariant](#). Physically, the global cosmic universal time in the [scale factor](#), as well as the entire **3D** space, are being **re-nullified** (**A2** in [Slide 19](#)) “during” the footprints t_1 and t_2 from the two *physicalized* universes depicted in [Fig. 4](#).

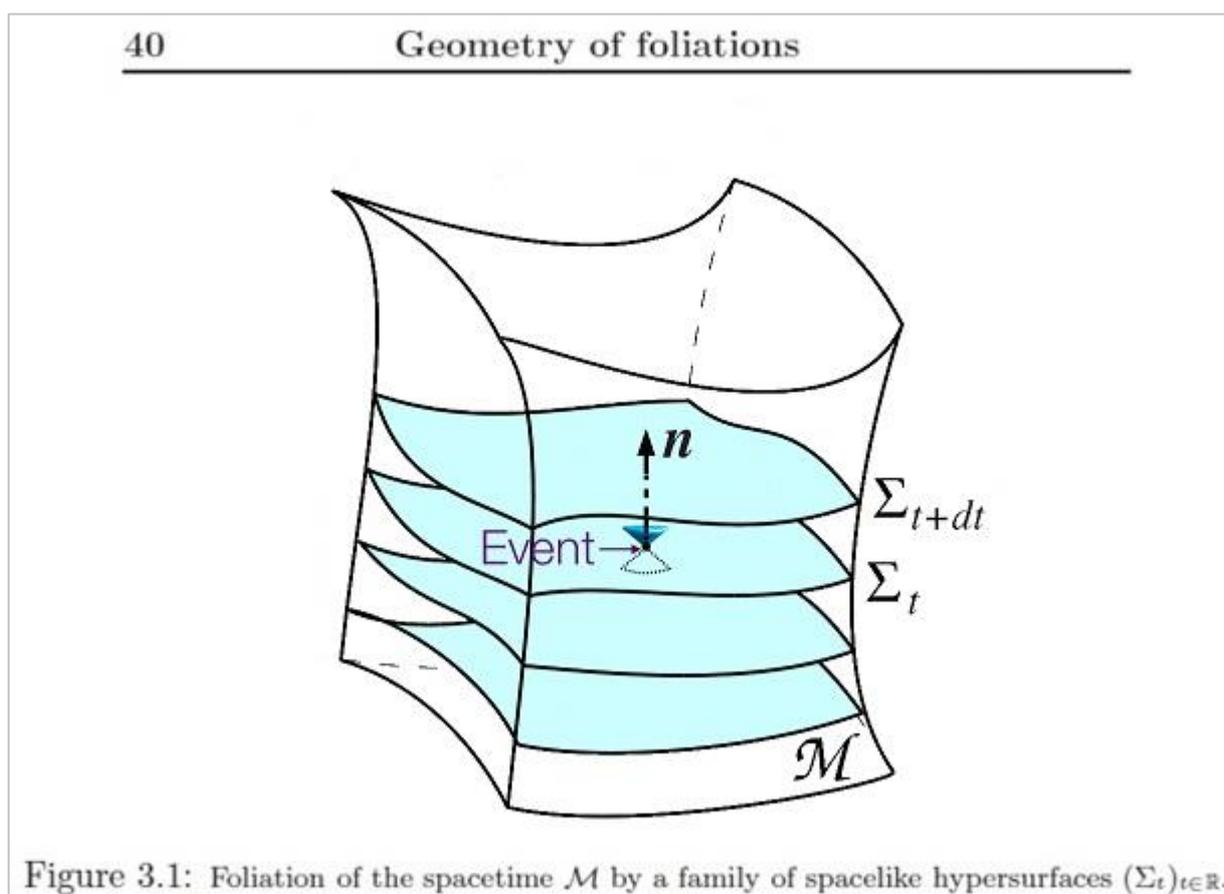
In the current version of GR, on the other hand, there is only one frozen ‘[block universe](#)’ (e.g., [George F. R. Ellis](#)), and the *colorless* (pre-geometric) medium “between” every “consecutive” slice of spacelike hypersurface, as well as its **4D thickness** along the vector **n** depicted in Fig. 3.1 [below](#), are considered *infinitesimal* in size and duration. All unsolved problems of ‘limit’, inherited from [Augustin-Louis Cauchy](#) (p. **8** in [hi_numbers.pdf](#)), are quietly swept under the carpet with so-called local differential geometry ([Robert Geroch](#)).

Also, there is ‘problem of time’ in GR ([Butterfield and Isham](#)), but there is no ‘problem of 3D space’ in GR, because 3D space does not “disappear” like time does in GR. There is no explanation of the four topological dimensions of spacetime endowed with Archimedean topology (ref. [31], p. **18** in [hi_numbers.pdf](#)), which is why I raised the question of parameterization of time by null geometry in my email from 14 August 2017 [above](#). Let me elaborate (more [below](#)).

The “intuitively clear” idea about stacking spacelike hypersurfaces on top of each other, shown in [Fig. 3.1](#), is *essentially* incomplete — see my question about **4D “thickness”** of light [below](#). Both the **assembled**, physical time and the **assembled**, physical 3D space

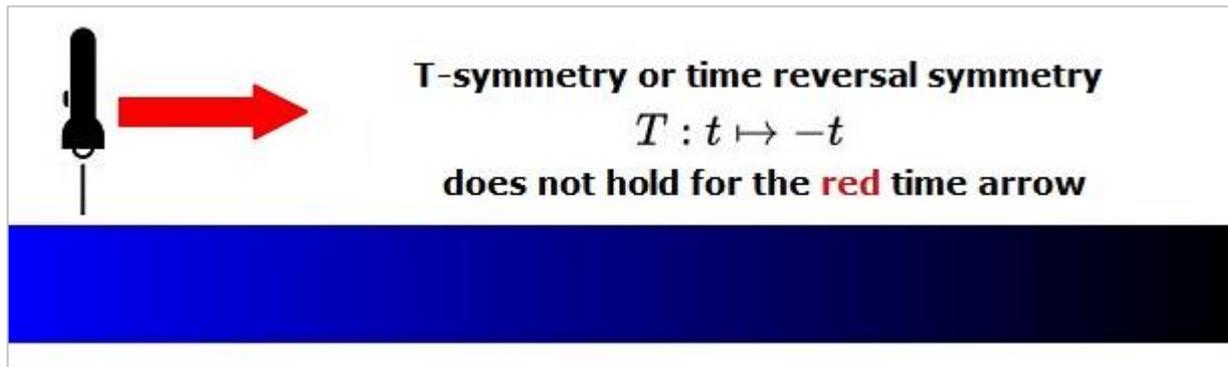
emerge (Sic!) along the **red** lines in Fig. 4. The latter are **nullified** in the **assembled** (see [below](#)) **4D** spacetime. The *horizontal red* line, as shown in Fig. 4 [above](#), is placed "sideways" (link [here](#)) to the "vector" **n** in Fig. 3.1. In the **assembled**, physical 3D space it is **squared** (link [here](#)) as well, just like time is squared ([time-reversal symmetry](#)). Hence in the **assembled** and *squared* 3D space we have **3D** spatial "axis" of Small vs. Large, starting at the macroscopic world (Alice) in [two opposite directions](#), toward the Small and toward the Large: see Alice and Bob [above](#). This **3D** spatial "axis", from Planck length to that of the observable universe, shows the *intrinsic* characteristic of 3D space: [length](#). The 3D spatial "axis" and the 1D temporal axis define the [spatial-temporal orientation of spacetime](#) viz. the topological dimensions of the **assembled** and *squared* **4D** spacetime. The core idea here, after Plato (Fig. 4 in [CEN.pdf](#)), is that the *topology* of the **assembled** and *squared* **4D** spacetime *emerges* only "after" **all red** components of the *atemporal* axis **W** (Fig. 4) are being **nullified**, leading to a physicalized **4D** "jacket" (see [below](#)) endowed with [Finite Infinity \(FI\)](#) — see p. 5-6 in [Penrose diagram.pdf](#) and Fig. 3 in '[Gravity-Matter Duality](#)'. This is the reason to introduce the hyperimaginary numbers: see p. 13 and Fig. 8 in [CEN.pdf](#). *Panta rei*, including the topological dimensions of the *physicalized*, **4D** spacetime. Their **nullified**, hyperimaginary source (Case **IV** in Table 1 in [spacetime.pdf](#)) does not, as **it** (not "He") resides *exactly* at the **red lines** at null-and-infinity ([Luke 17:21](#)).

As to Fig. 3.1 below, from Ericourgoulhon's [arXiv:gr-qc/0703035v1](#), I believe it is *essentially* incomplete, because it does not show the [null geometry](#) "inside" every **4D** event 'here and now' viz. the two [nullified red](#) components of the axis **W** in Fig. 4.



Subsequently, there can be no *flow of events* in such dead frozen universe. It doesn't matter if it is "curved" or not. To explain 'time as read with a clock', you need to imagine some "[torch](#)" (see the drawing [below](#)), which highlights every "consecutive" slice/spacelike hypersurface in the drawing [above](#), to produce the "vector" of causality **W** (Fig. 5 in '[Gravity-Matter Duality](#)') and time orientability ([Piotr Chrusciel](#)), but the [torch](#) must be "outside" the block universe, i.e., it must be located in the *colorless* (**pre-geometric**) medium in the drawing [above](#). If such torch highlights every infinitesimal increment of the color of some '[blue](#) block universe' (depicted in the drawing [below](#)), you may imagine that,

as time progresses ([Fig. 4](#)), the torch will highlight the [shades of blue](#), but there is no explanation of the **self-acting** activity of such "hidden active agent" ([Arlen Anderson](#)): the [torch](#) cannot be driven **by** the 'shades of [blue](#)' themselves. "There is no dynamics within space-time itself: nothing ever moves therein; nothing happens; nothing changes." (Robert Geroch, *General Relativity from A to B*, University of Chicago Press, 1978, [p. 20](#).)



Briefly, in current GR the [foliation of spacetime](#) is made **by** some "[hidden active agent](#)" *outside* spacetime. Bad idea. Smells like GR parapsychology.

Alternatively, if the "[torch](#)" can highlight a 3-sphere *en bloc* (see my email [above](#)), we can introduce 'global causal vector' along the *atemporal* axis of causality **W**. The latter is always "outside" the *physical* universe, i.e., always in the *colorless* (**pre-geometric**) medium in [Fig. 3.1](#): physically, **W** can only cast its physicalized "jackets" (p. **3** in [CEN.pdf](#)) in the irreversible **past** ([Fig. 3](#) in '[Gravity-Matter Duality](#)'). If we can "look" along the two *atemporal* components of **W** in [Fig. 4](#), we can see the entire physical world **inside-out** (Wikipedia, p. **9** in [CEN.pdf](#), and ref. [33], p. **18** in [hi_numbers.pdf](#)). However, there are no 'inside-out' spacetime transformations in mathematical relativity (cf. Mark Armstrong, p. **19** in [hi_numbers.pdf](#), and [Fig. 8](#) in [CEN.pdf](#)), related to '[space-oriented spacetime](#)'.

Keep also in mind that the *atemporal* axis **W**, which is mathematically an "[empty set](#)", is the relativistic vacuum known as [Aether](#): see my interpretation in [Fig. 3](#) in [CEN.pdf](#). In general, what we call 'vacuum' is "that which is left over after all which can possibly be removed has been removed." (Stephen Summers, *Yet More Ado About Nothing: The Remarkable Relativistic Vacuum State*, arXiv:0802.1854v2 [math-ph], [p. 2](#).) If we follow this operational definition of 'vacuum', we can imagine 'the grin of the Cheshire cat *without* the cat' ([Fig. 1.1](#) in '[Gravity-Matter Duality](#)'), placed in the **left**-hand side of field equations ([Kevin Brown](#)).

NB: This vacuum-like phenomenon — "a hidden active agent in the passage of time", Arlen Anderson, [p. 8](#) — is not revealed in mathematical relativity; see ref. [54], p. **34** in [spacetime.pdf](#). It lives along the *atemporal* axis **W** ([Fig. 4](#) in [CEN.pdf](#)) and defines the *orientability* of spacetime "globally in a consistent way" ([Piotr Chrusciel](#)), up to the asymptotic "boundaries" of spacetime (p. **6** in [Penrose diagram.pdf](#)), with Finite Infinity (**FI**). The latter is utterly needed to define 'gravitationally closed system' and (hopefully) solve the puzzle of the positivity of mass in GR, as mentioned in my email from 14 August 2017 [above](#). Surely "one can distinguish past directions from future directions on earth by measuring the increase in entropy" (R. K. Sachs and H. Wu, *General Relativity for Mathematicians*, Springer-Verlag, 1977, [p. 27](#)), but we cannot map the second law of thermodynamics to the [spacetime manifold](#). There are various physical *manifestations* of the asymmetry of time, but none of them is the "engine" of cosmic time. If the "engine" was some *physical* phenomenon, it will have to be caused by *another* physical cause, etc., which prompted Aristotle to suggest the [Unmoved Mover](#). The latter can exist only as *purely* mathematical, **pre-geometric** (p. **3** in '[Gravity-Matter Duality](#)'), and **self-acting** object: Der Geist bewegt die Materie (*Mens agit molem*, Virgil, *The Aeneid*, [VI, 727](#)).

We need [hyperimaginary numbers](#) to describe the **re-creation** of *physicalized* universes (p. **4** in '[Gravity-Matter Duality](#)'), after [polarization of primordial mathematical points](#)

performed with/by the entire Universe as ONE ([Universal Set](#)), otherwise known as God (**A4** in [Slide 19](#)). We need new Mathematics.

I suppose here people will say 'nah, this is too speculative, we prefer rock solid quantum gravity backed with rigorous mathematical theory'. Like the [Born rule](#) maybe? Or like the [projection postulate](#)? And how about [QED](#) ([Peter Milonni](#))? All these theories work perfectly well, provided we don't try to think deeply about the [Quantum Spacetime](#): just 'shut up and calculate'. Nothing "anomalous" happens when you turn on the light in your living room, for example. Nobody knows how we produce 1.8×10^{20} identical photons per second (p. **3** in [hi_numbers.pdf](#)), but we do it anyway. Nobody knows the "connection" between the [human brain](#) and its mind (try the experiment on p. **2** in [hi_numbers.pdf](#)), but we use it anyway. The same will be with quantum gravity: once we find out how it works (ref. [18], p. 15 in [hi_numbers.pdf](#)), we will practice [spacetime engineering](#) (p. **11** in [CEN.pdf](#)).

Mark my words.

D. Chakalov
September 4, 2017
Latest update: October 5, 2017, 14:55 GMT

=====

Subject: Boundary of ideal points?
Date: Tue, 5 Sep 2017 11:57:25 +0000
Message-ID: <CAM7Ekxk-BDHb_WUet-XS-jNFhoB-VNOgNgzRR=qr3Zxtim+EBQ@mail.gmail.com>
From: Dimi Chakalov <dchakalov@gmail.com>
To: ben.whale@otago.ac.nz, bwhale@maths.otago.ac.nz
Cc: fbeyer@maths.otago.ac.nz, jhennig@maths.otago.ac.nz, Jörg Frauendiener <joergf@maths.otago.ac.nz>, tchris@cc.uoa.gr, gdoulis@phys.uoa.gr, gopapado@phys.uoa.gr, Piotr T Chrusciel <piotr.chrusciel@univie.ac.at>, hef@aei.mpg.de

Hi Ben:

Regarding your brave [arXiv:1401.1287v2 \[gr-qc\]](#), I wonder if you or some of your colleagues can answer the question posed in the drawing attached.

Details at my website below.

All the best,

Dimi
--
D. Chakalov
[chakalov.net](#)

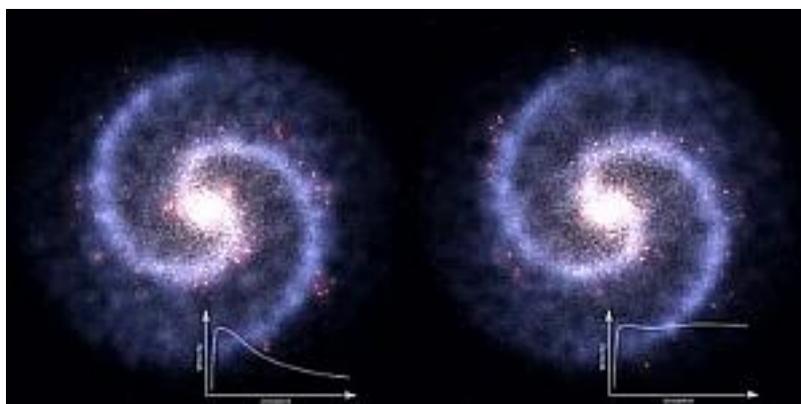
Attachment: [Penrose_omega_zero.jpg](#)

NOTE

Recall the operational definition of 1m: $1/299792458$ of a light second ([Wiki](#)). That is, 3.3 nanoseconds **x** the speed of light **assemble** app. 1m viz. the physical spacetime endowed with Archimedean topology (ref. [**31**] in [hi_numbers.pdf](#)). But what if the spacetime is **assembled** differently in the quantum-gravitational world, leading to **Relative Scale** (RS) spacetime? Check out my note from 8 December 2016 [above](#). All effects of gravity in the **assembled** "jackets" [above](#) can be *reproduced* by altering the metric of RS spacetime.

Keep in mind that the infinitesimal displacement **dt** in Fig. 3.1 [above](#) pertains to the **assembled** (also local and physical) spacetime with Archimedean topology. The latter means that the infinitesimal displacement **dt** is never *actually* zero, but is spanned along an *infinitesimal* "interval" **AB = dt** (Fig. 1 in [CEN.pdf](#)). There is no metric "within" **AB**: it is an *infinitesimal* entity, which "has no part" ([Euclid](#)), and therefore it can accommodate only one "point" viz. [real number](#). It is the final end-point known in calculus as 'limit' — check out the example in Fig. 7 in [hi_numbers.pdf](#). We see these end-points only in the irreversible **past** (Fig. 3 in '[Gravity-Matter Duality](#)'), *after* being **assembled** by the "speed" of light (see [above](#)) as a *perfect* continuum of **past**-points from a **3**-sphere (see [above](#)). Again, the **past**-points are [real-number](#) **footprints** of the hyperimaginary axis **W**, which is "before" light (p. 8 in [hi_numbers.pdf](#), and p. 6 and pp. 13-16 in [CEN.pdf](#)).

Physically, we cannot observe the **atemporal** hyperimaginary rotation "during" **AB = dt** (Fig. 1 in [CEN.pdf](#)) — the hyperimaginary axis **W** is *perfectly* hidden **by** the "speed" of light (**A2** in [Slide 19](#) and ref. [54] on p. 34 in '[The Spacetime](#)'). Astronomers observe rotation/spin only in the **assembled** spacetime, for example, as [spiral rotation of galaxies](#).



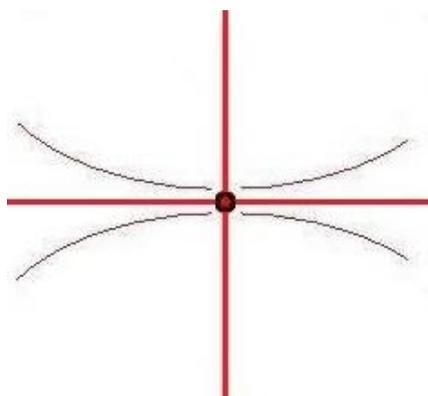
Watch also [David Wittman](#), March 4, 2008

Thanks to the "speed" of light (see again **A2** in [Slide 19](#)), the **hyperimaginary** rotation "during" **AB = dt** and transition "between" **AB = dt** (Fig. 1 in [CEN.pdf](#)) are unobservable in principle. They are *inseparable bundle* of two **hyperimaginary** topological properties of [RS spacetime](#), **hyperimaginary** rotation & transition. In the **assembled** (physical) spacetime endowed with Archimedean topology (ref. [31] in [hi_numbers.pdf](#)), we can observe only their *physicalized* "jackets" (p. 3 in [CEN.pdf](#)). If people try to trace these "jackets" to any physical phenomena, they will have to pronounce them "dark", like the "torch" dubbed "[hidden active agent](#)" *outside* spacetime (see [above](#)) or the "[dark matter](#)".

Read p. 9 in '[Gravity-Matter Duality](#)' ([gm_duality.pdf](#)) and '[Gravitational Holomovement and Rotation](#)' ([holon.pdf](#)), and follow the links. Were the **origin** of hyperimaginary rotation & transition *physically* exposed, the spiral rotation of galaxies (see above) will have to be driven by some *physical* torsion field, and the Aristotelian *Unmoved Mover* (see [above](#)) will have to be produced by some "fundamental scalar field". Thank God, this is impossible. The infinitesimal 'quantum of energy' (Fig. 1 in [CEN.pdf](#)), which is supposed to match the infinitesimal 'tick of time' **dt** (p. 4 in [CEN.pdf](#)), pertains exclusively to positive mass: the infinitesimal "kick" from negative mass (ref. [10] in [hi_numbers.pdf](#)), which makes the assembled *physicalized* 4D world **self-acting** (Sic!), is perfectly hidden by the "speed" of light (**A2** in [Slide 19](#)). Which brings us to the question about the *positivity* of mass in GR, raised in my email from [14 August 2017](#). Any suggestions?

Very briefly: the so-called ADM mass (e.g., [Brett Bolen](#)) and Bondi mass (e.g., [Hollands and Thorne](#)) simply do not work; check out the conformal recipe in [Penrose diagram](#) (watch for *tails*, which Hermann Bondi described as "[absolutely disastrous discovery](#)").

There have been many efforts to employ the [null geometry](#) in GR (for example, by [David Robinson](#) and by [Carlos Kozameh and Ted Newman](#)), but they don't work either, for various reasons, one of which is that you cannot install [GW mirrors](#) *exactly* at "infinity". I could not find any feasible approach to gravity, based on [null-surfaces](#) (see my email to David Robinson [below](#)), but chances are that I have missed some idea similar to the one presented [above](#). As mentioned before, I very much hope to discuss the issues of modeling the spacetime and those related to the *origin* of inertia with experts in mathematical relativity and gravitation (p. **9** in '[Gravity-Matter Duality](#)' and p. **6** in [holon.pdf](#)). In my opinion, it is manifestly wrong to model the spacetime by analogy of obtaining the [volume of cube](#) with rib **a**, by multiplying the 2D surface of its base (a^2) by **a** (a^3) viz. stacking [space-like hypersurfaces](#) along the "vector" **n** in Fig. 3.1 [above](#). Namely, you cannot see in [Fig. 3.1](#) the two null directions, normal and tangential (Piotr Chrusciel), and the two *complemental* "orthogonal independent spacelike directions" ([James Hartle](#)), as depicted with the two **red** components of the axis **W** in the drawing below. It only shows the colorless, **pre-geometric** domain in [Fig. 3.1](#), called '[absolute time and space](#)' by Newton.



The lower ("south") part corresponds to [Fig. 4](#) in [gm_duality.pdf](#). See [Fig. 3.2](#) in [hi_numbers.pdf](#), and p. **10** and [Fig. 14](#) in [CEN.pdf](#).

Once you switch to [3-sphere](#), it will be a whole new ball game. Let me offer a hint. Imagine you are watching a movie in a cinema ([Fig. 4](#) in [CEN.pdf](#)): it doesn't matter if the 2D images on the cinema screen are flat or "curved" ([George F. R. Ellis](#)). The important issue here is that the "thickness" of the images on the screen is **nullified**. Also, you could be sitting at the opposite side of the screen, watching the parity-invariant movie along the opposite direction orthogonal to the 2D screen ([Flatland](#)), like making a [horizontal flip](#) of an image: left becomes right, but the movie does *not* run "backwards" (compare it with [CPT-symmetry](#)). But once you switch to [3-sphere](#), where will you be sitting to "watch" the 3D movie of the *evolving 3-sphere*? Along the "**dark**" *atemporal* axis **W** (see [above](#)), which *explicates* its [physicalized](#), [assembled](#) and **squared 4D spacetime** of [Alice and Bob](#).

D. Chakalov
 September 13, 2017
 Latest update: October 5, 2017, 18:10 GMT

=====

Subject: [Geometry, Null Hypersurfaces and New Variables](#) (30 March 2005),
 by D.C. Robinson
 Date: Sun, 24 Sep 2017 17:43:45 +0000
 Message-ID: <CAM7EkxmtdLisQ4XF1Rt9rER0mtr7a9na+yXkWdxFvZXV1RQrvA@mail.gmail.com>
 From: Dimi Chakalov <dchakalov@gmail.com>
 To: David <david.c.robinson@kcl.ac.uk>
 Cc: George Ellis <gfrellis@gmail.com>, [Helmut Friedrich](#) <hef@aei.mpg.de>, [snip]

Dear David,

I hope this email will find you in good health, and also that all my email messages, sent since December 2005, have been safely received.

I fully agree with you and John Stachel that null geometry has to be implemented in GR, but my approach is quite different from yours: please check out [pp. 105-111](#) in [gravity.pdf](#), available at my website below. As of today, I think our understanding of null geometry is not better than Lewis Carroll's Jabberwocky:

'Twas brillig, and the slithy toves
Did gyre and gimble in the wabe;
All mimsy were the borogoves,
And the mome raths outgrabe.

All the best,

Dimi

--

D. Chakalov
chakalov.net

NOTE

As an example of mathematical jabberwocky, check out the excerpt from Helmut Friedrich [here](#), from his [arXiv:1709.07709v1 \[gr-qc\]](#), p. 2 and p. 10. Notice that Helmut Friedrich can only suggest "a domain where space-like and null infinity [come close to each other](#)."

Read also my comments to Béatrice Bonga [above](#). Needless to say, I will be more than happy to elaborate on the kind of "space-time engineering" suggested by Piotr Chrusciel *et al.* in [arXiv:gr-qc/0403066v2](#).

In a nutshell, David Robinson, [Jürgen Ehlers](#), Helmut Friedrich, Piotr Chrusciel, Robert Geroch, George F.R. Ellis and all their colleagues speculate about 'isolated systems in general relativity' by adopting [two-valued logic](#): the null and spacelike hypersurfaces *either* reach infinity, *or* do not reach infinity. But this "intuitively clear" logic is no longer valid. Instead, I suggest 'both-and' logic, namely, the null and spacelike hypersurfaces *both* reach infinity (by actual or completed infinity) *and* do not reach infinity (due to potential infinity, which can never be completed): check out Finite Infinity (**FI**) [above](#), p. 6 in [Penrose diagram.pdf](#), and Fig. 3 in 'Gravity-Matter Duality' ([gm_duality.pdf](#)). Has anyone heard of anything similar or even remotely resembling this proposal? Please let me know. Again, the alleged "vector" **n** in Fig. 3.1 [above](#) belongs to the [assembled](#) and hence local (physical) spacetime with Archimedean topology (see [above](#)), like a *chain* of physicalized pizzas (read my note [above](#) and p. 9 in 'Gravity-Matter Duality').

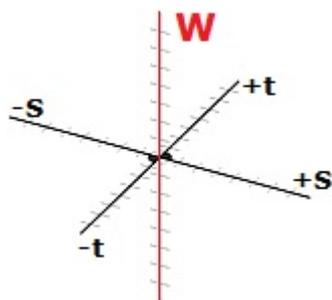
It is like taking snapshots of a [dark](#) room (p. 5 in [sheeple.pdf](#)) with a torch (see [above](#)), and then **assembling** these physical snapshots to produce a movie reel without any **dark** room: you will obtain a local (physical) **4D** spacetime by collecting all light rays hitting the entire **3D** room *en bloc* (see my email [above](#)). The **dark** strips in the movie reel belong to the [hyperimaginary axis W](#) (see [above](#)) — with respect to the movie reel presenting the **assembled** (local and physical) **4D** spacetime, these **dark** strips are *atemporal* due to the "speed" of light (**A2** in [Slide 19](#)). Yet what we call 'time' is not only 'change *in* (assembled) spacetime', but 'change *of* spacetime' as well — it's a bundle. The second component, 'change *of* spacetime' along the hyperimaginary *atemporal* axis **W** (see [above](#)), is totally missing in today's *Weltbild*: see Table 1 on p. 14 in [spacetime.pdf](#). Regarding Case **II** in Table 1, recall the non-local [EPR correlations](#) (watch [Henry Stapp](#)) and the bootstrapping of the [human brain](#), as well as the [holomovement](#) of fish in a [school of fish](#) (Fig. 3 in

[holon.pdf](#)). And yes, gravity is also inherently non-local ([Laszlo Szabados](#)). All this requires [quantum-gravitational spacetime](#). We only need Mathematics (p. 20 in [hi_numbers.pdf](#)).

Still not convinced? Consider this: *what* creates the foliation of spacetime ([Fig. 3.1](#)), in such a way that "the collection of leaves looks *locally* (emphasis mine - D.C.) like pages of a book" ([Vladimir Rovenskij](#))? Locally, you'll need "differentiable glue" ([Richard W. Sharpe](#)) to make the manifold "[smooth](#)" (C^∞). Moreover, how could Minkowski spacetime *emerge* ([Isham and Butterfield](#)) from the quantum-gravitational "soup" after time zero ([Slide 12](#))?

In general, is 'matter' the necessary *and* sufficient condition for Geometry? Surely we need 'matter' to talk about 'geometry', for example, about the trajectory of a football, made by some unique geometric "point" that belongs to the football (e.g., t_1 and t_2 in [Fig. 4 above](#)). Yet what we call 'matter' is *only* the necessary condition for Geometry. We also need [hyperimaginary numbers](#) to describe *Res potentia* (p. 64), shown with two **red** lines in the main drawing [above](#) and in [Fig. 4](#). They are hyperimaginary *components* of the **red arrow** of causality **W**, shown [above](#).

But why is **W** an *arrow*? Let me briefly explain below; the extended presentation of the *arrow* of causality **W** will be the subject of my introductory video #1/3, which I hope to post at my YouTube channel by Christmas 2018 (p. 20 in [hi_numbers.pdf](#)). In this first video, will postpone the introduction of [null geometry](#) by [Hermann Minkowski](#), and will use Cartesian coordinates (suggested by [René Descartes](#)) in [3D Euclidean space](#).



1+1-D spacetime of one single 2D "pizza": see p. 9 in '[Gravity-Matter Duality](#)'. Fig. 2 shows six 4D "pizzas" evolving along the arrow of causality **W**, which is [hidden](#) by the "[speed](#)" of light: see **A2** in [Slide 19](#).

Fig. 1

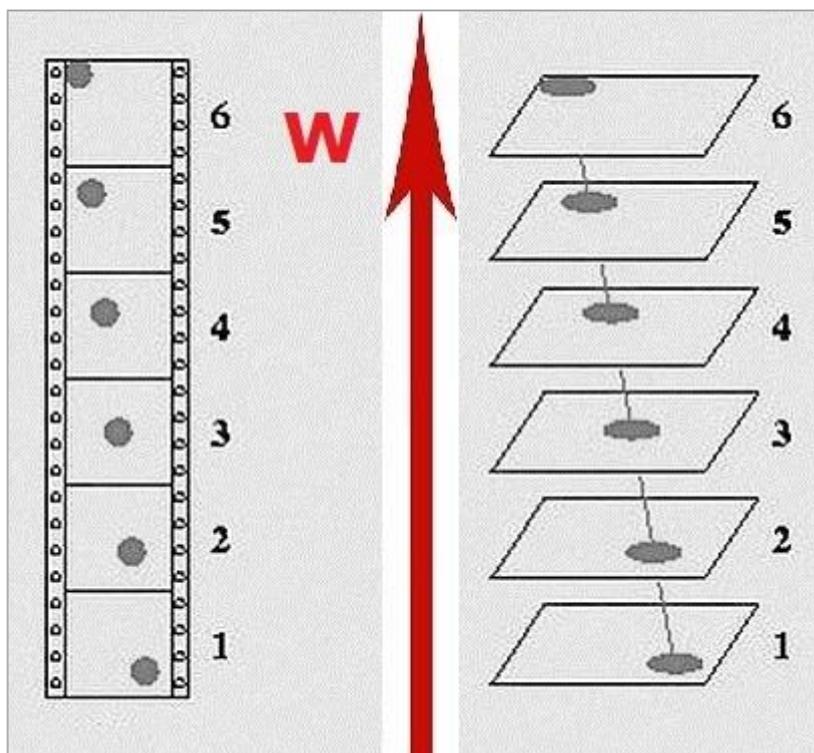


Fig. 2

To understand the Arrow of Space (AoS) along the arrow of causality **W** in [Fig. 2](#) above, see three *physicalized 4D* universes in [Fig. 3](#) (adapted from Sean Carroll, [From Eternity to Here](#), Penguin, 2010). It shows three *achronal* gravitationally isolated systems (dubbed "[flashes](#)") with *different* (due to creative, [non-unitary transformations](#)) matter-energy content. The [twice contracted Bianchi identity](#) holds *only* in every individual "slice" ([Fig. 1](#) and [Fig. 3.1 above](#)), which is why we can (effectively) switch off gravity ([Peter Bergmann](#); [László Szabados](#)) — [once-in-a-4D-spacetime](#) — just like we [eliminate](#) the wave function. We can show only a single *physicalized 4D* universe ([Fig. 1](#)) in "free fall" and speculate about its [twice contracted Bianchi identity](#), say, at 10:00, 10:01, 10:02, etc. ([Fig. 3](#)).

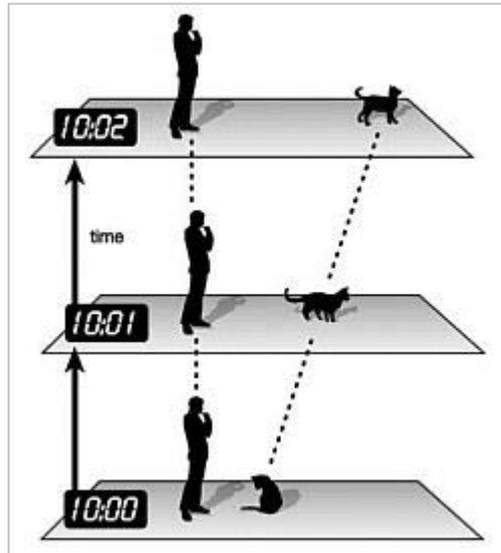


Fig. 3

We cannot measure 'gravity per se' in the white (colorless) area in Fig. 3, but only its *physicalized* manifestations, such as some *tangible* energy ([Hermann Bondi](#)) and [stresses](#), just as we cannot measure the quantum waves ([p. 60](#)) with *complex* phase (Chen Ning Yang, ref. [36] in [spacetime.pdf](#)), but only their *physicalized* "jackets" ([p. 3](#) in [CEN.pdf](#)).

We must not use [tensors](#) in GR, because [tensor fields](#) are mathematical objects applicable *only* in classical physics, which describes the physical world as 'objective reality *out there*' – it either '*is*' or '*is not*', always with **certainty** ([Erwin Schrödinger](#)). Gravity is *not* a physical "pizza" ([p. 2](#) in '[Gravity-Matter Duality](#)'), so it neither '*is*' nor '*is not*'. Just like the quantum waves ([p. 60](#)), gravity is *potential* reality, "just in the middle between possibility and reality" ([Werner Heisenberg, Slide 7](#)). We have quantum potential reality in terms of '*the quantum state*' which neither '*is*' nor '*is not*' (cf. Kochen-Specker theorem, [p. 54](#)), and gravitational potential reality in terms of Einstein's *Gesamtfeld* ([p. 3](#) in [CEN.pdf](#)). In the quantum world (not in QM textbooks), *the quantum state* is not *physical* observable ([Werner Heisenberg](#)), because the chance to be detected is **exactly zero**. It is an **intact** quantum "trunk" ([p. 64](#)), which is neither "particle" nor "wave", does not "[collapse](#)" nor "[decohere](#)", and is not "[uncertain](#)" but *flexible*: God casts the die, not the dice (Albert Einstein; original below).

Der Herrgott würfelt nicht!

In summary, the *potential* quantum-gravitational state of the entire *physicalized* universe ([Fig. 3](#)) resembles the [vacuum in QED](#), and **it** (not "He") may be coupled ([Slide 14](#)) to the *cognitive* vacuum ([p. 2](#) in [hi_numbers.pdf](#)). This is the crux of [spacetime engineering](#).

In the second video lecture #2/3, I will introduce the topology of spacetime by replacing the 3D axis **S** in [Fig. 1](#) with the arc from a [3-sphere](#) shown in the main drawing [above](#), and will explain the *atemporal* **red** arrow of causality in [Fig. 2](#) viz. the so-called hyperimaginary numbers. The last lecture #3/3 deals with [spacetime engineering](#), e.g., [REIM](#). Stay tuned.

Subject: Why can't you go [faster than light](#)?

Date: Wed, 11 Oct 2017 12:57:21 +0000

Message-ID: <CAM7EkxknsMcXxnUdt_80A8BhokcbBpJEXxNj+qJaY_cgSqPqcw@mail.gmail.com>

From: Dimi Chakalov <dchakalov@gmail.com>

To: Don <lincoln@fnal.gov>

<https://www.youtube.com/watch?v=A2JCoIGyGxc>

Watch 6:35-8:04

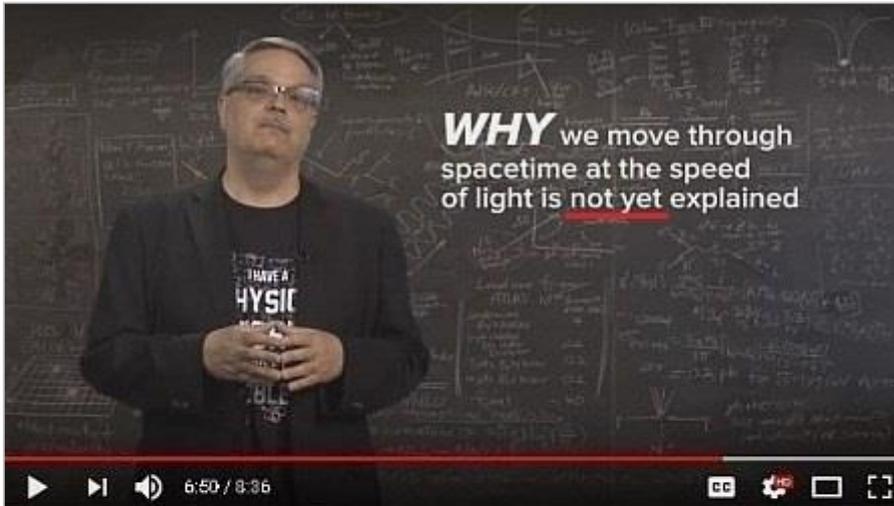
--

Don, you never replied to my email messages. Check out

[light_speed_Plato.jpg](#) and [light_speed.zip](#) attached.

D. Chakalov

chakalov.net



Why can't you go faster than light?
Fermilab, Published on Oct 3, 2017
<https://www.youtube.com/watch?v=A2JCoIGyGxc>

Watch 6:35-8:04

With a little help from Plato, an answer is suggested at chakalov.net.

D. Chakalov

NOTE

Don Lincoln did not try to relate his 'WHY' question above to the "speed" of the guy and that of his cat, shown in [Fig. 3](#): was he talking about *retarded* light? Regarding the "speed" of light: the **re-assembled, 4D** spacetime (see [above](#)) evolves along the *arrow of causality* **W** ([Fig. 2](#)). The entire luxonic realm of 'offer' and 'confirmation' wave(s), depicted in [Fig. 1](#) in [CEN.pdf](#), is *atemporal*, which is why we cannot "turn back" and look at it, as explained by Plato ([Fig. 5](#) in '[The Spacetime](#)'). More about RS spacetime [above](#).

D. Chakalov

October 11, 2017, 16:52 GMT

=====

Subject: Re: Is there 3-D space in classical GR?

Date: Thu, 12 Oct 2017 11:08:38 +0000

Message-ID: <CAM7EkxmsNOjOxn9q=5BdCKVWNSZ1jOpN3oxdBAHaddDD_PjSvA@mail.gmail.com>

From: Dimi Chakalov <dchakalov@gmail.com>

To: Ulrich H Gerlach <gerlach.1@osu.edu>

Cc: Alan Coley <aac@mathstat.dal.ca>, Erwan Allys <allys@iap.fr>, Joan Sola <sola@fqa.ub.edu>, Adria Gomez-Valent <adriagova@fqa.ub.edu>, James Dilts <jdilts@ucsd.edu>, Michael Holst <mholst@ucsd.edu>, Karel V Kuchar <kuchar@physics.utah.edu>, Charles Torre <charles.torre@usu.edu>, Chris Isham <c.isham@imperial.ac.uk>, Norbert Straumann <norbert.straumann@gmail.com>, Jörg Frauendiener <joergf@maths.otago.ac.nz>, Laszlo Szabados <lbszab@rmki.kfki.hu>, Adam Helfer <helfera@missouri.edu>, Greg Galloway <galloway@math.miami.edu>, John Baez <baez@math.ucr.edu>, Paul Tod <tod@maths.ox.ac.uk>, Domenico Giulini <giulini@itp.uni-hannover.de>, Richard M Schoen <schoen@math.stanford.edu>, Sergiu Klainerman <seri@math.princeton.edu>, Piotr T Chrusciel <piotr.chrusciel@univie.ac.at>, Robert M Wald <rmwa@midway.uchicago.edu>, George Ellis <gfrellis@gmail.com>, Robert Geroch <geroch@uchicago.edu>, Roger Penrose <penroad@wadh.ox.ac.uk>

Dear Dr. Gerlach,

I still have not received your reply to my first email from 13 July 2003. Hope that all my email messages sent afterwards have been safely received.

Since you are professional mathematician, may I draw your attention to the end point problem, as defined in your Math 5451 at

https://people.math.osu.edu/gerlach.1/math701/Some_Course_Benefits.html

"The mathematics of extremizing a given functional at a boundary (end point problem)"

Roger Penrose tackled this issue in January 1963, by suggesting some kind of conformal compactification recipe -- see my essay '[Penrose-Norris Diagram](#)' and pp. 103-121 in [gravity.pdf](#) at my website below.

In my opinion, the presentation of [3-D space in classical GR](#) is [sheer poetry](#) (I am trying to be very polite). Your professional feedback, as well as the opinions of your colleagues, will be greatly appreciated.

Sincerely,

Dimi Chakalov

chakalov.net

On Sun, 13 Jul 2003 17:38:33 +0300, Dimi Chakalov <dchakalov@surfeu.at> wrote:

>

> Dear Dr. Gerlach,

>

> It is a great pleasure to read your papers. May I share with you some
> thoughts prompted by your observation that "to exist means to have
> specific properties" [Ref. 1].

[snip]

NOTE

The presentation of [3-D space in classical GR](#) does not show the *global* properties of spacetime (e.g., [time-orientability](#)), because it can't — see Aristotle [above](#). People acknowledge the mathematical fact that moving "forward" or "backward" in time is just like moving in 3D space, because every interval in **4D** spacetime is **squared** ([Wikipedia](#)).

Yet when they talk about [causality](#) and examine Fig. 3 above, they believe the guy there (let's call him Bob) is at rest, meaning that his spatial coordinates do not change, while in the same reference frame his cat changes her spatial and temporal coordinates, so the latter can be read with Bob's clock. But since there is no spatial "clock", many people strive to imagine 3D space like some enormous warehouse with size matching the [observable universe](#), which does not move (yes it does, see Fig. 4) nor has spin (yes it has). In fact, every physical system both 'moves' and [rotates](#) (e.g., [Zhao and Santos](#) and [Craig J. Copi et al.](#)). With respect to *what*? There is no *physical Aether* nor absolute space and time ([Newton](#)): they are *both* "inside" every instant 'here and now' *and* "outside" the physical universe, residing at *one and the same endpoint* (see above) shown with the *atemporal* and *non-spatial* axis **W** (Fig. 2). The latter has no physical metric and is "orthogonal" to the [assembled 4D](#) spacetime, at null intervals (**A2** in [Slide 19](#)), [once-in-a-4D-spacetime](#).

Since I cannot fully answer any 'WHY' question (e.g., [Don Lincoln](#)), let me try to shed some light on Fig. 3 above. As *Gedankenexperiment*, think of the ball bouncing back from a wall (**A2** in [Slide 19](#)) as a cat, and replace the wall with Alice; in Fig. 5 below, the *spacetime* interval ([Wikipedia](#)), separating Bob from Alice, is 5m.

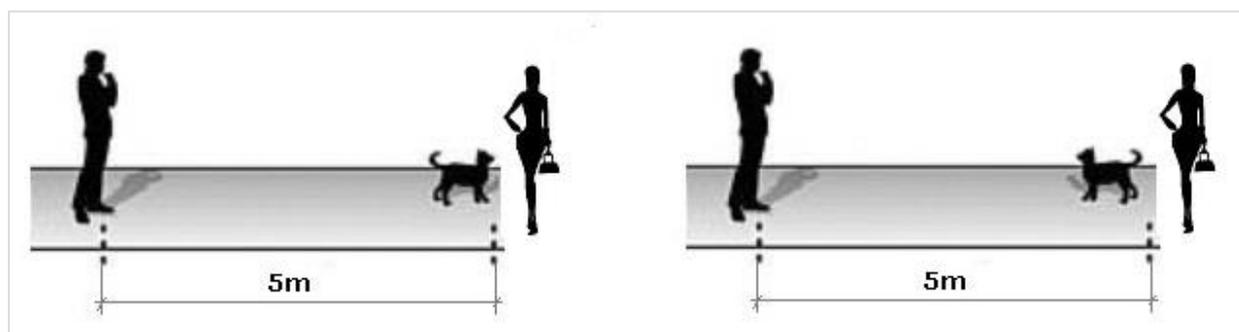


Fig. 5

The cat walks always with speed 1m/s; first from Bob to Alice (+t), after which it bounces back (-t) to Bob. He will "collect" his cat after 10s, which will be cat's Bob-Alice-Bob cycle. But what if the duration of cat's cycle shrinks to 33 nanoseconds? The cat will become light (Fig. 3 in [CEN.pdf](#)), trespassing 1m for [3.3 nanoseconds](#). It will also become massless and *atemporal* ("will not have aged", see above) luxonic "torch", and the entire Bob-Alice-Bob cycle will consume "zero" time (**A2** in [Slide 19](#)), from both Bob's clock *and* Alice's clock. The Bob-Alice-Bob cycle will be "spanned" within *one* single event (Fig. 1 in [CEN.pdf](#)), presented with *one* single *dimensionless* point from the [real number line](#). Thanks to the "speed" of light, the [assembled 4D](#) spacetime is *perfect* continuum: the "dark room" above, *as well as* the "torch" (Sic!), are *totally* eliminated. In this case Bob's cat is called Macavity ([T. S. Eliot](#)), and any time Bob or Alice look at Macavity, it will have *already* (Sic!) disappeared (ref. [35] in [spacetime.pdf](#)) from their [assembled 4D](#) spacetime. The latter belongs only to the irreversible **past**, while the atemporal Macavity resides only in the *potential future* (Fig. 3 in '[Gravity-Matter Duality](#)') along the arrow **W** (Fig. 2).

It is further suggested that in the quantum-gravitational spacetime ([Slide 8](#)), the atemporal Macavity belongs *simultaneously* to Bob and Alice, which is why they can be EPR-correlated (watch [Henry Stapp](#)), like two fish in their non-local ([Laszlo Szabados](#)) school of fish (see [p. 30](#) and Fig. 3 in [holon.pdf](#)). In general, the physical effects from Macavity (dubbed 'causal field') are shown in Table 1, p. 14 in [spacetime.pdf](#).

It took me 23 long years, from January 1990 to [October 2013](#), to include gravity in the quantum world with the so-called Relative Scale (RS) spacetime: read the note on [p. 77](#). To keep the spacetime interval invariant ([Wikipedia](#)) at [all length scales](#), the **rate** of time will have to *decrease* in the Small and *increase* in the Large — with respect to Alice, *not* to Bob. If we denote the 5m interval in Fig. 5 with **x**, the condition for null interval, $x = \pm ct$ ([Wikipedia](#)), will *always* hold true at [all length scales](#), only the **rate** of time will *decrease* toward the [Planck scale](#) (**B_S**) and *increase* toward the [observable universe](#) (**B_L**). As Bob becomes "small" (**B_S**) and "large" (**B_L**), he will not notice *any* change in his [RS metric](#) —

the phenomenon which *assembles* the physical, **4D** spacetime will **render** (Sic!) "smaller" spacetime intervals in the Small, and "larger" spacetime intervals in the Large, due to the different **rate** (**R**) of time therein. Hence with respect to Alice (**A**), Bob will be indeed *very* small (**B_s**) or *very* large (**B_L**), yet again Bob will *always* remain 'the same'. Thus, the entire *physicalized* universe can be bootstrapped by its [null geometry](#), like a [school of fish](#). The quantum world toward the Small and the gravitational world toward the Large will be overlapping and *penetrating* (Sic!) each other, as they are effectively separated *only* at the length scale of tables and chairs ([Alice](#)). As a bonus, the [human brain](#) (see the experiment p. **2** in [hi_numbers.pdf](#)) should have access to the quantum-gravitational spacetime by creating scalable "bridge" (dubbed BAVER, p. **11** in [CEN.pdf](#)) between its *potential* states and those of the Brain of the Universe.

In my opinion, there is no alternative way toward Quantum Gravity. The only feedback so far came from Prof. Dr. rer. nat. Maurice de Gosson at the University of Vienna: "Buzz off, idiot!" (p. **5** in [Penrose diagram.pdf](#)). Any other suggestions?

D. Chakalov

October 13, 2017

Latest update: October 19, 2017, 13:20 GMT

=====

Subject: [Pink unicorns dancing with red herrings?](#)

Date: Wed, 4 Oct 2017 03:18:12 +0000

Message-ID: <CAM7EkxnorAb+oOXKRq1vMg96GL6Z0TvHzojh5bAJboejmNCb7g@mail.gmail.com>

From: Dimi Chakalov <dchakalov@gmail.com>

To: Karel V Kuchar <kuchar@physics.utah.edu>, John Stachel <john.stachel@gmail.com>, Jose M M Senovilla <josemm.senovilla@ehu.es>, Gary Horowitz <gary@physics.ucsb.edu>, Carlo <rovelli.carlo@gmail.com>, James M Nester <nester@phy.ncu.edu.tw>, Sean Hayward <sean_a_hayward@yahoo.co.uk>, Domenico Giulini <giulini@itp.uni-hannover.de>, Richard M Schoen <schoen@math.stanford.edu>, Erik Curiel <erik@strangebeautiful.com>, Sergiu Klainerman <seri@math.princeton.edu>, Robert M Wald <rmwa@midway.uchicago.edu>, Gustav <g.holzegel@imperial.ac.uk>, George Ellis <gfrellis@gmail.com>, Xiao Zhang <xzhang@amss.ac.cn>, Chris Isham <c.isham@imperial.ac.uk>, Gian Michele Graf <gian-michele.graf@itp.phys.ethz.ch>, Paul Tod <tod@maths.ox.ac.uk>, Ezra Newman <newman@pitt.edu>, Sascha Husa <sascha.husa@gmail.com>, David B Malament <dmalamen@uci.edu>, Laszlo Szabados <lbszab@rmki.kfki.hu>, Adam Helfer <helfera@missouri.edu>, Greg Galloway <galloway@math.miami.edu>, Robert Geroch <geroch@uchicago.edu>, Dieter R Brill <brill@umd.edu>, Yuan K Ha <yuanha@temple.edu>, Norbert Straumann <norbert.straumann@gmail.com>, William G Unruh <unruh@physics.ubc.ca>, Zhao-Yan Wu <zhaoyanwu2000@yahoo.com>, Paul Steinhardt <steinh@princeton.edu>, fbeyer@maths.otago.ac.nz, jhennig@maths.otago.ac.nz, joergf@maths.otago.ac.nz, tchris@cc.uoa.gr, gdoulis@phys.uoa.gr, gopapado@phys.uoa.gr, piotr.chrusciel@univie.ac.at, hef@aei.mpg.de

The Nobel Committee for Physics: "It was not until the late 1950's that it was rigorously proven that the waves actually exist as solutions to the full non-linear equations, and that they carry energy [16-18]."

See refs. [16-18] in

http://www.god-does-not-play-dice.net/LIGO_NobelPrize2017.pdf

More at my website below.

D. Chakalov

chakalov.net

=====

Subject: The 2017 Nobel Prize for physics was awarded to a **FRAUD**.
Date: Wed, 4 Oct 2017 12:47:58 +0000
Message-ID: <CAM7Ekxk01cASB2z9PvMrRJDhM5+HU_3p6WBGgNs8wnKgdbqB6w@mail.gmail.com>
From: Dimi Chakalov <dchakalov@gmail.com>
To: Kristina Wolff <kristina.wolff@nobel.kva.se>,
Nils Martensson <nils.martensson@physics.uu.se>,
David Haviland <haviland@nanophys.kth.se>,
Olga Botner <olga.botner@physics.uu.se>,
Thors Hans Hansson <hansson@fysik.su.se>,
Gunnar Ingelman <gunnar.ingelman@physics.uu.se>
Cc: Karel V Kuchar <kuchar@physics.utah.edu>, John Stachel
<john.stachel@gmail.com>, Jose M M Senovilla <josemm.senovilla@ehu.es>, Gary
Horowitz <gary@physics.ucsb.edu>, Carlo <rovelli.carlo@gmail.com>, James M Nester
<nester@phy.ncu.edu.tw>, Sean Hayward <sean_a_hayward@yahoo.co.uk>, Domenico
Giulini <giulini@itp.uni-hannover.de>, Richard M Schoen <schoen@math.stanford.edu>,
Erik Curiel <erik@strangebeautiful.com>, Sergiu Klainerman <seri@math.princeton.edu>,
Robert M Wald <rmwa@midway.uchicago.edu>, Gustav <g.holzegel@imperial.ac.uk>,
George Ellis <gfrellis@gmail.com>, Xiao Zhang <xzhang@amss.ac.cn>, Chris Isham
<c.isham@imperial.ac.uk>, Gian Michele Graf <gian-michele.graf@itp.phys.ethz.ch>, Paul
Tod <tod@maths.ox.ac.uk>, Ezra Newman <newman@pitt.edu>, Sascha Husa
<sascha.husa@gmail.com>, David B Malament <dmalamen@uci.edu>, Laszlo Szabados
<lbszab@rmki.kfki.hu>, Adam Helfer <helfera@missouri.edu>, Greg Galloway
<galloway@math.miami.edu>, Robert Geroch <geroch@uchicago.edu>, Dieter R Brill
<brill@umd.edu>, Yuan K Ha <yuanha@temple.edu>, Norbert Straumann
<norbert.straumann@gmail.com>, William G Unruh <unruh@physics.ubc.ca>, Zhao-Yan
Wu <zhaoyanwu2000@yahoo.com>, Paul Steinhardt <steinh@princeton.edu>, Jörg
Frauendiener <joergf@maths.otago.ac.nz>, LIGO Spokesperson David Shoemaker
<dhs@mit.edu>, LIGO Deputy Spokesperson Laura Cadonati <cadonati@gatech.edu>,
David Garfinkle <garfinkl@oakland.edu>, Rainer Weiss <weiss@ligo.mit.edu>,
buonanno@physics.umd.edu, Gabriela González <gonzalez@lsu.edu>, Stefano Vitale
<vitale@science.unitn.it>, Eric Gustafson <egustafs@ligo.caltech.edu>, Andrzej Mariusz
Trautman <amt@fuw.edu.pl>, Kip <kip@tapir.caltech.edu>, Piotr
<piotr.chrusciel@univie.ac.at>, JulieHiroto LIGO <jhiroto@ligo.caltech.edu>, Kenneth
Libbrecht <kgl@caltech.edu>, taylor_r@ligo.caltech.edu, Mike <zucker_m@ligo.mit.edu>,
Joan Centrella <joan.centrella@nasa.gov>, marco.drago@aei.mpg.de, Adrian Cho
<acho@aaas.org>, Mark Hannam <markodh@googlemail.com>, pmarrone@nsf.gov, Lee
Samuel Finn <lsfinn@psu.edu>, Beverly Berger <grgsocietymail@gmail.com>,
Cesar.Garcia@esa.int, Paul McNamara <paul.mcnamara@esa.int>, ian.harrison@esa.int,
fersotj@gmail.com, yamamoto_h@ligo.caltech.edu, zweizig_j@ligo.caltech.edu,
swang5@caltech.edu, zhang_l@ligo.caltech.edu, abbott_b@ligo.caltech.edu,
anderson_s@ligo.caltech.edu, barish_b@ligo.caltech.edu, sarah.gossan@tapir.caltech.edu,
fbeyer@maths.otago.ac.nz, jhennig@maths.otago.ac.nz, gdoulis@phys.uoa.gr,
gopapado@phys.uoa.gr, hef@aei.mpg.de

Ladies and Gentlemen:

The 2017 Nobel Prize for physics was awarded to a **FRAUD**.

See LIGO_NobelPrize2017.pdf attached.

Details at my website below.

D. Chakalov
chakalov.net

Attachment: [LIGO_NobelPrize2017.pdf](#)

Scientific Background on the Nobel Prize in Physics 2017

The Nobel Committee for Physics, 3 October 2017

https://www.nobelprize.org/nobel_prizes/physics/laureates/2017/advanced-physicsprize2017.pdf

“Distances in space increase and decrease with a steady cadence in two directions at 90 degrees to each other, orthogonal to the direction of motion of the wave.”

“In the case of gravitational radiation, energy conservation forbids monopole radiation, and momentum conservation forbids dipole radiation, leaving the quadrupole as the lowest multipole.”

“It was not until the late 1950’s that it was rigorously proven that the waves actually exist as solutions to the full non-linear equations, and that they carry energy [16-18].”

--

[16] H. Bondi, F.A.E. Pirani and I. Robinson, Gravitational waves in general relativity III. Exact plane waves, *Proc. Roy. Soc. Lond.* A251, 519 (1959)

[17] F.A.E. Pirani, Invariant formulation of gravitational radiation theory, *Phys. Rev.* 105, 1089 (1957)

[18] I. Robinson and A. Trautman, Spherical gravitational waves, *Phys. Rev. Lett.* 4, 431 (1960); I. Robinson and A. Trautman, Some spherical gravitational waves in general relativity, *Proc. Roy. Soc. Lond.* A265, 463 (1962); A. Trautman, Boundary conditions at infinity for physical theories, *Bull. Acad. Polon. Sci.* 6, 403 (1958); A. Trautman, Radiation and boundary conditions in the theory of gravitation, *Bull. Acad. Polon. Sci.* 6, 407 (1958)

=====

Do gravitational waves (GWs) “actually exist as solutions to the full non-linear (Sic! – D.C.) equations”, and how would they “carry energy [16-18]”? How will you install GW “mirrors” at null-and-spacelike infinity? How will you define spacetime boundaries (cf. [R. Penrose](#)) at null-and-spacelike infinity to obtain ‘gravitationally isolated system’ and then prove “energy conservation” viz. speculate about “the quadrupole as the lowest multipole” (see [above](#))?

Have you seen pink unicorns dancing with red herrings? The Nobel Committee for Physics will be *very* happy to hear from you.

D. Chakalov
chakalov.net

4 October 2017, 05:33 GMT

Subject: B. Schutz, Mathematical and Physical Perspectives on Gravitational Radiation,
2 August 2002

Date: Fri, 6 Oct 2017 12:27:09 +0000

Message-ID: <CAM7Ekx=0KKE++MFrpcpG22B6R40ZR0FMWoJo0pSF8RhikFargg@mail.gmail.com>

From: Dimi Chakalov <dchakalov@gmail.com>

To: Bernard Schutz <bernard.schutz@cardiff.ac.uk>,
Bernard Schutz <Bernard.Schutz@aei.mpg.de>

Cc: Kristina Wolff <kristina.wolff@nobel.kva.se>, Nils Martensson
<nils.martensson@physics.uu.se>, David Haviland <haviland@nanophys.kth.se>, Olga Botner
<olga.botner@physics.uu.se>, Thors Hans Hansson <hansson@fysik.su.se>,
Beatrice Bonga <bbp165@psu.edu>, Eric <epoisson@uoguelph.ca>, Matt
<matt.lake@gmail.com>, Brien <brien.nolan@dcu.ie>, Melissa
<melissa.pesce.rollins@pi.infn.it>, Michele <michele.maggiore@unige.ch>, Jose Rodriguez
<jose.rodriguez2@correo.uis.edu.co>, Jorge Rueda <jorge.rueda@icra.it>, Nigel
<n.bishop@ru.ac.za>, Rosalba Perna <rosalba.perna@stonybrook.edu>, Abraham Loeb
<aloeb@cfa.harvard.edu>, Valerie Connaughton <valerie@nasa.gov>, Beverly Berger
<grgsocietymail@gmail.com>, Cesar Garcia Marirrodiga <Cesar.Garcia@esa.int>, Paul
McNamara <paul.mcnamara@esa.int>, Ian Harrison <ian.harrison@esa.int>, Abby
<ashtekar@gravity.psu.edu>, LIGO Spokesperson David Shoemaker <dhs@mit.edu>, LIGO
Deputy Spokesperson Laura Cadonati <cadonati@gatech.edu>, Eric Gustafson
<egustafs@ligo.caltech.edu>, Alan J Weinstein <ajw@caltech.edu>, David Reitze
<reitze@ligo.caltech.edu>, osc@ligo.org, LSC Education and Public Outreach Group <lsc-
epo@ligo.org>, Marco Cavaglia <marco.cavaglia@ligo.org>, gabriela.gonzalez@ligo.org,
hiroto_j@ligo.caltech.edu, LSC Web Team <lsc-webcomm@ligo.org>, Rainer Weiss
<weiss@ligo.mit.edu>, Steven Weinberg <weinberg@physics.utexas.edu>,
abbott_b@ligo.caltech.edu, anderson_s@ligo.caltech.edu, barish_b@ligo.caltech.edu,
sarah.gossan@tapir.caltech.edu, gustafson_e@ligo.caltech.edu, JulieHiroto LIGO
<jhiroto@ligo.caltech.edu>, Kenneth Libbrecht <kgf@caltech.edu>, Bob Taylor
<taylor_r@ligo.caltech.edu>, yamamoto_h@ligo.caltech.edu, zweizig_j@ligo.caltech.edu,
swang5@caltech.edu, zhang_l@ligo.caltech.edu, Mike <zucker_m@ligo.mit.edu>, Emanuele
<berti@wugrav.wustl.edu>, Bruce Allen <bruce.allen@aei.mpg.de>, Karsten
<karsten.danzmann@aei.mpg.de>, Bernard Schutz <Bernard.Schutz@aei.mpg.de>, Clifford Will
<cmw@wuphys.wustl.edu>, Oliver Jennrich <oliver.jennrich@esa.int>, Adrian Cho
<acho@aaas.org>, Joan Centrella <Joan.Centrella@nasa.gov>, Mark Hannam
<markodh@googlemail.com>, Pedro Marronetti <pmarrone@nsf.gov>, Bernd Brügmann
<b.bruegmann@tpi.uni-jena.de>, Lee Samuel Finn <lfinn@psu.edu>, Beverly Berger
<grgsocietymail@gmail.com>, Luciano <rezzolla@th.physik.uni-frankfurt.de>, Ian Harrison
<ian.harrison@esa.int>, Damien Texier <contactesa@esa.int>, Charles Dunn
<Charles.E.Dunn@jpl.nasa.gov>, Philippe Jetzer <jetzer@physik.uzh.ch>, Eric Plagnol
<eric.plagnol@apc.univ-paris7.fr>, Carlos Sopena <sopena@ieec.uab.es>, Ira Thorpe
<james.i.thorpe@nasa.gov>, Benjamin Knispel <benjamin.knispel@aei.mpg.de>, Martin
Hewitson <hewitson@aei.mpg.de>, SciTech.Editorial@esa.int, Takaaki Kajita <kajita@icrr.u-
tokyo.ac.jp>, Masatake Ohashi <ohashi@icrr.u-tokyo.ac.jp>, Seiji Kawamura <seiji@icrr.u-
tokyo.ac.jp>, Bala Iyer <bri@rri.res.in>, Tarun Souradeep <tarun@iucaa.ernet.in>, Sanjeev
Dhurandhar <sanjeev@iucaa.ernet.in>, Jörg Frauendiener <joergf@maths.otago.ac.nz>, Laszlo
Szabados <lbszab@rmki.kfki.hu>, Adam Helfer <helfera@missouri.edu>, Greg Galloway
<galloway@math.miami.edu>, John Baez <baez@math.ucr.edu>, Paul Tod
<tod@maths.ox.ac.uk>, Domenico Giulini <giulini@itp.uni-hannover.de>, Jose Geraldo Pereira
<jpereira@ift.unesp.br>, Robert Geroch <geroch@uchicago.edu>, Niall Murchadha
<niall@ucc.ie>, Norbert Straumann <norbert.straumann@gmail.com>, Alan Rendall
<rendall@uni-mainz.de>, Carla Cederbaum <cederbaum@math.uni-tuebingen.de>, Carlo Rovelli
<rovelli.carlo@gmail.com>, Catherine Meusburger <catherine.meusburger@gmail.com>, Cecilia
Flori <cflori@perimeterinstitute.ca>, Daniele Oriti <doriti@aei.mpg.de>, David B Malament
<dmalamen@uci.edu>, Ettore Minguzzi <ettore.minguzzi@unifi.it>, Evangelos Melas
<emelas@econ.uoa.gr>, Eanna Flanagan <flanagan@astro.cornell.edu>, Gary Horowitz
<gary@physics.ucsb.edu>, George Ellis <gfrellis@gmail.com>, Gian Michele Graf <gian-
michele.graf@itp.phys.ethz.ch>, Chris Isham <c.isham@imperial.ac.uk>, Karel V Kuchar
<kuchar@physics.utah.edu>, Helmut Friedrich <hef@aei.mpg.de>, Josh Goldberg
<goldberg@phy.syr.edu>, Kip <kip@tapir.caltech.edu>

Dr. Bernard Schutz:

Fifteen years ago, on 2 August 2002, you showed the insurmountable problems of GW detection: see what you wrote in

<http://www.god-does-not-play-dice.net/Schutz.pdf>

Yet a few days ago, your PhD mentor Kip Thorne and two other people were awarded the 2017 Nobel prize for the "discovery" of what you and many experts in GR proved impossible -- the detection of GW cannot be achieved with any theory based on the *linearized* approximation of GR, as proven by Hermann Weyl in October 1944 (How Far Can One Get With a Linear Field Theory of Gravitation in Flat Space-Time? American Journal of Mathematics, Vol. 66, No. 4 (Oct., 1944), pp. 591-604). This is widely known mathematical fact, which you and your PhD mentor conspicuously failed to acknowledge. The only available theory of gravitational radiation was suggested by Sir Hermann Bondi in 1961, published next year (Josh Goldberg, private communication). And you know bloody well that Bondi's 'news field' (reference to Paper VII is available upon request) has nothing to do with LIGO, VIRGO, etc.

Just recall what you wrote on 2 August 2002 above, and look at Kip Thorne's slides at

http://www.god-does-not-play-dice.net/kip_slide_5.jpg

Details in pp. 103-117 in

<http://www.god-does-not-play-dice.net/gravity.pdf>

(1,386,096 bytes, 6 October 2017, 09:35:32 GMT)

Now you've retired and moved back to Cardiff University, but you still advertise the so-called GW150914 at your blog. Why are you doing this, Bernie? Nobody can take your pension away if you tell the truth. You're safe.

NB: GW150914 was either a Biblical "miracle" or a gigantic FRAUD. Tertium non datur.

If you don't believe in Biblical "miracles", check out readme.html or readme.pdf (9 pages) in chakalov.zip (app. 15Mb), available at <http://chakalov.net>. Happy reading.

D. Chakalov

--

We haven't the money, so we've got to think!

Lord Rutherford, 1962 Brunel Lecture, 14 February 1962

Overfunded research is like heroin: It makes one addicted, weakens the mind and furthers prostitution.

Johann A. Makowsky, The Jerusalem Post, 19 April 1985

NOTE

The vibrating membrane in a loudspeaker is the *source* of sound waves. In Quantum Theory, however, there is no pulsating mechanism acting as the *source* of quantum waves with complex phase (p. **2** in [gm_duality.pdf](#)): the quantum waves are not physical objects (see W. Heisenberg in p. **60** above). There is no *pulsating* source of gravitational waves (GWs) either — the *ultimate* source of GW is **not** "pulsating", like vibrating membrane in a loudspeaker, to produce pulsating spacetime metric, spreading as GWs. The drawing of GWs in Fig. **2** on p. 3 in [Schutz.pdf](#) is **false**.

LIGO & VIRGO may talk about "pulsations" of the metric in [GW170814](#) **iff** they can demonstrate both *emanation* of GWs from realistic astrophysical sources ([Michele Maggiore](#)), such as binary neutron star ([BNS](#)) merger, and transfer of their *intangibile* ([Hermann Bondi](#)) GW energy to some solid-state detector ([Piotr Chrusciel](#)) — **not** to light beams (explanation from Robert Wald [below](#)).

Only they can't. Which is why I am not interested in any "waveforms reconstructed from a morphology-independent wavelet analysis [13]" ([arXiv:1709.09660v3](https://arxiv.org/abs/1709.09660v3)), "Morlet-Gabor continuous wavelet frame", or "trans-dimensional Reversible Jump Markov Chain Monte Carlo algorithm" ([arXiv:1410.3835v3](https://arxiv.org/abs/1410.3835v3)), whichever comes first.

Forget it. If you are eager to study [GW parapsychology](#), first you have to "demonstrate" that "gravitons" really exist: check out the recipe by Kip Thorne on p. 6 in [readme.pdf](#), available at chakalov.net. Or go directly to the source, Exercise 27.8, by Kip Thorne, 1227.1.K.pdf, [pp. 31-32](#):

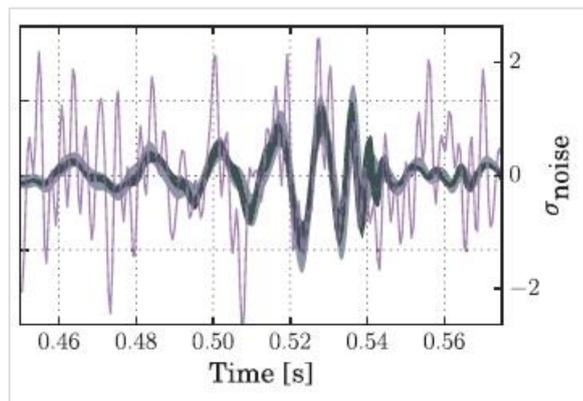
Problem: *Gravitational waves from arm waving*

Wave your arms rapidly, and thereby try to generate gravitational waves.

(a) Compute in order of magnitude, using classical general relativity, the wavelength of the waves you generate and their dimensionless amplitude at a distance of one wavelength away from you.

(b) How many gravitons do you produce per second?

How many "gravitons" per second can you produce? Compare your results to those produced by an average [Hummingbird](#), in line with Thorne's recipe (a) above. Then check out VIRGO's result below, from 6 October 2017 ([arXiv:1709.09660v3](https://arxiv.org/abs/1709.09660v3), p. 141101-2):



Obviously, the darkened oscillation above shows "waveforms reconstructed from a morphology-independent wavelet analysis [13] (light gray) and BBH models described in Sec. V (dark gray), whitened by each instrument's noise amplitude spectral density between 20 Hz and 1024 Hz. For this figure the data were also low passed with a 380 Hz cutoff to eliminate out-of-band noise."

Consider also the calculated radiated energy ([ibid.](#), p. 141101-5):

Radiated energy E_{rad}	$2.7^{+0.4}_{-0.3} M_{\odot} c^2$
----------------------------------	-----------------------------------

Check out also [Robert M. Wald](#):

Robert M. Wald, *Space, Time, and Gravity*, University Of Chicago Press, 1992, p. 120.
<https://www.directtextbook.com/isbn/9780226870298>

120 **Chapter 9**

How may gravitational radiation be detected? If a gravitational wave passes through matter, the ripples in the space-time curvature will induce stresses in the matter. If these extremely tiny stresses can be measured, one can detect gravitational waves.

Here comes a very brief theoretical verification of [GW170814](#):

Given the localization of [GW170814](#) shown in their Fig. 3 ([ibid.](#), p. 141101-4) and VIRGO's result reproduced [above](#), try to calculate the number of "gravitons" corresponding to the radiated energy reported [above](#), which produced stresses ([R. M. Wald](#)) and unleashed a relativistic jet from γ -ray burst (GRB), as reported in [arXiv:1710.05857v1](#) (16.10.2017). Keep in mind that you have to work with very strong GWs at the immediate vicinity of the GRB [below](#), although nobody has any clue about the wave "pattern" (if any) of very strong GWs ([Michele Maggiore](#)). You have only the wave pattern of GW170814 [above](#), produced by *very weak* GWs, and will have to assume that it **1:1** matches the case of *very strong* GWs, about which you know **nothing**. You have no idea how to model *very strong* GWs from [BNS merger](#), namely, the [emanation of strong GWs](#) (Fig. 2, p. 3 in [Schutz.pdf](#)) at the vicinity of the GRB [below](#). All you know is that you cannot even think about the idea of "energy conservation" ([The Nobel Committee for Physics](#)) in the case of [BNS merger](#).

[Kip Thorne](#) already got [Nobel Prize](#) for GW parapsychology, so it is unlikely that he will help you.

Good luck.

D. Chakalov

October 17, 2017

Latest update: October 25, 2017, 01:47 GMT

=====

Subject: Re: B. Schutz, Mathematical and Physical Perspectives on Gravitational Radiation, 2 August 2002

Date: Tue, 17 Oct 2017 13:27:20 +0000

Message-ID: <CAM7EKx=e8drarjUMjDmhgMZzd54g4qWJ2iw--nZ4LPNLkvNcyQ@mail.gmail.com>

From: Dimi Chakalov <dchakalov@gmail.com>

To: Bernard Schutz <bernard.schutz@cardiff.ac.uk>, Bernard Schutz <Bernard.Schutz@aei.mpg.de>, Kristina Wolff <kristina.wolff@nobel.kva.se>, Nils Martensson <nils.martensson@physics.uu.se>, David Haviland <haviland@nanophys.kth.se>, Olga Botner <olga.botner@physics.uu.se>, Thors Hans Hansson <hansson@fysik.su.se>, Beatrice Bonga <bpb165@psu.edu>, Eric <epoisson@uoguelph.ca>, Matt <matt.lake@gmail.com>, Brien <brien.nolan@dcu.ie>, Melissa <melissa.pesce.rollins@pi.infn.it>, Michele <michele.maggiore@unige.ch>, Jose Rodriguez <jose.rodriguez2@correo.uis.edu.co>, Jorge Rueda <jorge.rueda@icra.it>, Nigel <n.bishop@ru.ac.za>, Rosalba Perna <rosalba.perna@stonybrook.edu>, Abraham Loeb <aloeb@cfa.harvard.edu>, Valerie Connaughton <valerie@nasa.gov>, Beverly Berger <grgsocietymail@gmail.com>, Cesar Garcia Marirrodiga <Cesar.Garcia@esa.int>, Paul McNamara <paul.mcnamara@esa.int>, Ian Harrison <ian.harrison@esa.int>, Abby <ashtekar@gravity.psu.edu>, LIGO Spokesperson David Shoemaker <dhs@mit.edu>, LIGO Deputy Spokesperson Laura Cadonati <cadonati@gatech.edu>, Eric Gustafson <egustafs@ligo.caltech.edu>, Alan J Weinstein <ajw@caltech.edu>, David Reitze <reitze@ligo.caltech.edu>, osc@ligo.org, LSC Education and Public Outreach Group <lsc-epo@ligo.org>, Marco Cavaglia <marco.cavaglia@ligo.org>, gabriela.gonzalez@ligo.org, hiroto_j@ligo.caltech.edu, LSC Web Team <lsc-webcomm@ligo.org>, Rainer Weiss <weiss@ligo.mit.edu>, Steven Weinberg <weinberg@physics.utexas.edu>, abbott_b@ligo.caltech.edu, anderson_s@ligo.caltech.edu, barish_b@ligo.caltech.edu, sarah.gossan@tapir.caltech.edu, gustafson_e@ligo.caltech.edu, JulieHiroto LIGO <jhiroto@ligo.caltech.edu>, Kenneth Libbrecht <kgl@caltech.edu>, Bob Taylor <taylor_r@ligo.caltech.edu>, yamamoto_h@ligo.caltech.edu, zweizig_j@ligo.caltech.edu, swang5@caltech.edu, zhang_l@ligo.caltech.edu, Mike <zucker_m@ligo.mit.edu>, Emanuele <berti@wugrav.wustl.edu>, Bruce Allen <bruce.allen@aei.mpg.de>, Karsten <karsten.danzmann@aei.mpg.de>, Clifford Will <cmw@wuphys.wustl.edu>, Oliver Jennrich <oliver.jennrich@esa.int>, Adrian Cho <acho@aaas.org>, Joan Centrella

<Joan.Centrella@nasa.gov>, Mark Hannam <markodh@googlemail.com>, Pedro Marronetti <pmarrone@nsf.gov>, Bernd Brügmann <b.bruegmann@tpi.uni-jena.de>, Lee Samuel Finn <lsfinn@psu.edu>, Beverly Berger <grgsocietymail@gmail.com>, Luciano <rezzolla@th.physik.uni-frankfurt.de>, Ian Harrison <ian.harrison@esa.int>, Damien Texier <contactesa@esa.int>, Charles Dunn <Charles.E.Dunn@jpl.nasa.gov>, Philippe Jetzer <jetzer@physik.uzh.ch>, Eric Plagnol <eric.plagnol@apc.univ-paris7.fr>, Carlos Sopena <sopena@ieec.uab.es>, Ira Thorpe <james.i.thorpe@nasa.gov>, Benjamin Knispel <benjamin.knispel@aei.mpg.de>, Martin Hewitson <hewitson@aei.mpg.de>, SciTech.Editorial@esa.int, Takaaki Kajita <kajita@icrr.u-tokyo.ac.jp>, Masatake Ohashi <ohashi@icrr.u-tokyo.ac.jp>, Seiji Kawamura <seiji@icrr.u-tokyo.ac.jp>, Bala Iyer <bri@rri.res.in>, Tarun Souradeep <tarun@iucaa.ernet.in>, Sanjeev Dhurandhar <sanjeev@iucaa.ernet.in>, Jörg Frauendiener <joergf@maths.otago.ac.nz>, Laszlo Szabados <lbszab@rmki.kfki.hu>, Adam Helfer <helfera@missouri.edu>, Greg Galloway <galloway@math.miami.edu>, John Baez <baez@math.ucr.edu>, Paul Tod <tod@maths.ox.ac.uk>, Domenico Giulini <giulini@itp.uni-hannover.de>, Jose Geraldo Pereira <jpereira@ift.unesp.br>, Robert Geroch <geroch@uchicago.edu>, Niall Murchadha <niall@ucc.ie>, Norbert Straumann <norbert.straumann@gmail.com>, Alan Rendall <rendall@uni-mainz.de>, Carla Cederbaum <cederbaum@math.uni-tuebingen.de>, Carlo Rovelli <rovelli.carlo@gmail.com>, Catherine Meusburger <catherine.meusburger@gmail.com>, Cecilia Flori <cflori@perimeterinstitute.ca>, Daniele Oriti <doriti@aei.mpg.de>, David B Malament <dmalamen@uci.edu>, Ettore Minguzzi <ettore.minguzzi@unifi.it>, Evangelos Melas <emelas@econ.uoa.gr>, Eanna Flanagan <flanagan@astro.cornell.edu>, Thibault Damour <damour@ihes.fr>, Alain Blanchard <alain.blanchard@ast.obs-mip.fr>, Jean-Philippe Uzan <uzan@iap.fr>, Lukas <lukas.ifsits@univie.ac.at>, Piotr <piotr.chrusciel@univie.ac.at>, Gary Horowitz <gary@physics.ucsb.edu>, George Ellis <gfrellis@gmail.com>, Gian Michele Graf <gian-michele.graf@itp.phys.ethz.ch>, Chris Isham <c.isham@imperial.ac.uk>, Karel V Kuchar <kuchar@physics.utah.edu>, Helmut Friedrich <hef@aei.mpg.de>, Josh Goldberg <goldberg@phy.syr.edu>, Kip <kip@tapir.caltech.edu>

P.S. Theoretical verification of GW170814 is suggested in [pp. 123-125](#) in

<http://www.god-does-not-play-dice.net/gravity.pdf>
(1,710,621 bytes, 17 October 2017, 12:33:01 GMT)

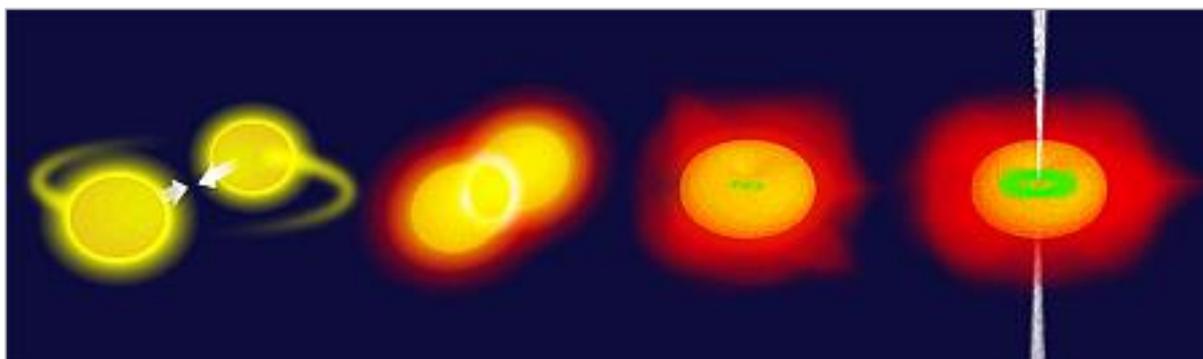
D.C.

On Fri, 6 Oct 2017 12:27:09 +0000, Dimi Chakalov <dchakalov@gmail.com> wrote:
[snip]

NOTE

No, Virginia, there is no [Santa Claus](#) nor black hole. We are adults and have to face the facts.

Don't be fooled by artistic impressions of some mythical "black hole" ([Angelo Loinger](#)) hidden by its ill-defined "event horizon" (e.g., [Dieter Brill](#)), as shown with the **green** area in the simulation of a binary neutron star (BNS) merger by [NASA/AEI/ZIB/M. Koppitz and L. Rezzolla](#) below.



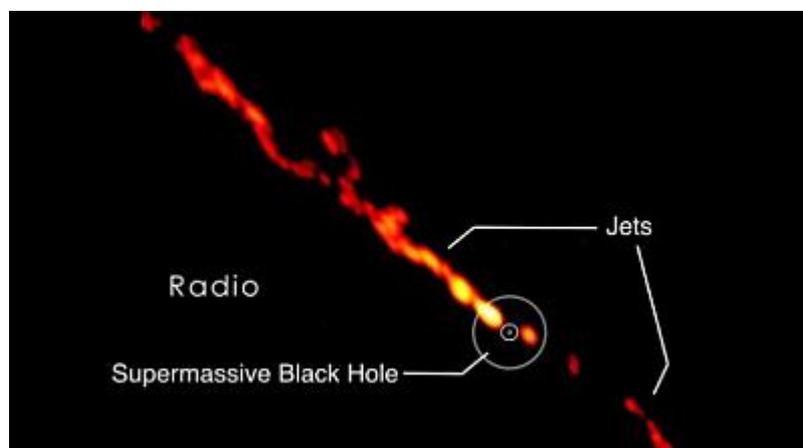
See the [old Tanzanian saying](#) on p. **3** in [gw_miracles.pdf](#).

Surely neutron stars are real objects, but we don't know *why* they rotate: see p. **111** above. Besides, here you cannot speculate about "energy conservation" ([The Nobel Committee for Physics](#)), because nobody knows the *engine* of those relativistic jets, capable of accelerating particles in "propeller mode" ([Adam T. Deller et al.](#)) up to **99%** of the speed of light. [Vacuum?](#) Negative mass ([Banesh Hoffmann](#); Yakov Terletsii, Fig. **4** and ref. [15] in [hi_numbers.pdf](#))? I suggested [spin-0 gravitational radiation](#) and the evolution equation (Sec. **3** in [CEN.pdf](#)), as the idea of some [static, spherically-symmetric](#) spacetime is not better than a [spherical cow](#) IMHO.

Secondly, suppose two neutron stars spiral inwards and at some instant collide. Fine, but before they collide, their shape will be distorted by enormous tidal forces, and such distortion **must** leave its signature in [GW170817](#), which is conspicuously missing. Thirdly, if LIGO & VIRGO cannot measure the *increasing* GW frequency in BNS merger, which will surpass their **2-3 kHz limit**, they cannot infer *anything* from what they **cannot** measure. Namely, the *origin* of the oscillations between **0.52 – 0.54** in the official publication by LIGO & VIRGO [above](#) is **totally** unclear — they cannot detect the crucial "post-merger signal" ([Francesco Pannarale](#)), matching the **green** area in the artistic simulation [above](#), in the first place. Astronomers (not LIGO & Virgo) can only claim that "the panchromatic photons, hereafter EM170817, are spatially, temporally and physically associated with GW170817" (Mansi Kasliwal et al., [arXiv:1710.05436v1](#)), and [start from scratch](#).

People rush to [speculate](#) that "the ultimate result of the [merger](#) was a black hole surrounded by an accretion disc of material. As this material was sucked into the [black hole](#), a fast-moving jet of material blasted outward along the black hole's axis of rotation. When this jet collided with gas in the galaxy, it started slowing down and the lost kinetic energy was broadcast as gamma rays."

[Get real](#). We can talk hours about rapidly spinning neutron stars and short (below 2 sec) gamma-ray bursts (sGRBs) — read Paolo D'Avanzo, [Short gamma-ray bursts: A review](#), *Journal of High Energy Astrophysics* 7 (2015) 73-80. Nobody knows *what* produces the relativistic **jets** and how ([Wikipedia](#)). Example: according to [NASA](#), their image from Centaurus A below shows an *invisible* "[supermassive black hole](#)" with mass of "55 million suns", producing an asymmetric relativistic jet. You cannot even think about "energy conservation" ([The Nobel Committee for Physics](#)) either.



Another example: what do you see in my drawing below?



Obviously, a pink elephant walking on a tight rope, only it just fell off. Where is my [Nobel Prize](#)?

As to [GW170814](#) — no, Virginia, there ain't no "black holes". Only [GW parapsychology](#).

D. Chakalov
October 20, 2017
Latest update: October 28, 2017, 10:18 GMT

Subject: What happened to the GW170817 neutron stars?

Date: Fri, 20 Oct 2017 14:46:10 +0000

Message-ID: <CAM7Ekx=2sS5ySx6oNM11gHCyRO833L1eH_FwzUFvY9Fn8p3g0w@mail.gmail.com>

From: Dimi Chakalov <dchakalov@gmail.com>

To: Kristina Wolff <kristina.wolff@nobel.kva.se>, Nils Martensson <nils.martensson@physics.uu.se>, David Haviland <haviland@nanophys.kth.se>, Olga Botner <olga.botner@physics.uu.se>, Thors Hans Hansson <hansson@fysik.su.se>, Beatrice Bonga <bbp165@psu.edu>, Eric <epoisson@uoguelph.ca>, LIGO Spokesperson David Shoemaker <dhs@mit.edu>, LIGO Deputy Spokesperson Laura Cadonati <cadonati@gatech.edu>, Melissa <melissa.pesce.rollins@pi.infn.it>, Eric Gustafson <egustafs@ligo.caltech.edu>, Steven Weinstein <sw@uwaterloo.ca>, Alan J Weinstein <ajw@caltech.edu>, Richard Price <rprice.physics@gmail.com>, Josh Goldberg <goldberg@phy.syr.edu>, Ronald J Adler <gyreron@gmail.com>, Karel V Kuchar <kuchar@physics.utah.edu>, Andrzej Mariusz Trautman <amt@fuw.edu.pl>, Kip <kip@tapir.caltech.edu>, Luc Blanchet <blanchet@iap.fr>, Bruce Allen <bruce.allen@aei.mpg.de>, Luciano <rezzolla@th.physik.uni-frankfurt.de>, Gary Horowitz <gary@physics.ucsb.edu>, David Garfinkle <garfinkl@oakland.edu>, Rainer Weiss <weiss@ligo.mit.edu>, Alessandra Buonanno <buonanno@physics.umd.edu>, Gabriela González <gonzalez@lsu.edu>, Stefano Vitale <vitale@science.unitn.it>, Charles Torre <charles.torre@usu.edu>, Chris Isham <c.isham@imperial.ac.uk>, Norbert Straumann <norbert.straumann@gmail.com>, Yuan K Ha <yuanha@temple.edu>, Daniel Kenefick <danielk@uark.edu>, Luca Bombelli <luca@phy.olemiss.edu>, Michele Maggiore <michele.maggiore@unige.ch>, Gerard Auger <auger@apc.univ-paris7.fr>, Eric Plagnol <plagnol@apc.univ-paris7.fr>, Remo <ruffini@icra.it>, Antoine Petiteau <antoine.petiteau@apc.univ-paris7.fr>, Alexandre Le Tiec <letiec@obspm.fr>, Jerome Novak <Jerome.Novak@obspm.fr>, Thibault Damour <damour@ihes.fr>, Alain Blanchard <alain.blanchard@ast.obs-mip.fr>, uzan@iap.fr, Lukas <lukas.ifsits@univie.ac.at>, Piotr <piotr.chrusciel@univie.ac.at>, Sergiu Klainerman <seri@math.princeton.edu>, Sascha Husa <sascha.husa@gmail.com>, Robert Beig <robert.beig@univie.ac.at>, Jörg Frauendiener <jjoergf@maths.otago.ac.nz>, Laszlo Szabados <lbszab@rmki.kfki.hu>, Adam Helfer <helfera@missouri.edu>, Greg Galloway <galloway@math.miami.edu>, John Baez <baez@math.ucr.edu>, Paul Tod <tod@maths.ox.ac.uk>, Domenico Giulini <giulini@itp.uni-hannover.de>, Jose Geraldo Pereira <jpereira@ift.unesp.br>, Robert Geroch <geroch@midway.uchicago.edu>, Demetrios Christodoulou <demetri@math.ethz.ch>, George Ellis <gfrellis@gmail.com>, Gian Michele Graf <gian-michele.graf@itp.phys.ethz.ch>, Helmut Friedrich <hef@aei.mpg.de>, John Stachel <john.stachel@gmail.com>, Ettore Minguzzi <ettore.minguzzi@unifi.it>, Lars Andersson <laan@aei.mpg.de>, Ezra Newman <newman@pitt.edu>, Christian Pfeifer <christian.pfeifer@itp.uni-hannover.de>, Sascha Husa <sascha.husa@uib.es>, Alan Rendall <rendall@uni-mainz.de>, Saul Teukolsky <saul@astro.cornell.edu>, Niall Murchadha <niall@ucc.ie>, Bernard Schutz <Bernard.Schutz@aei.mpg.de>, Ericourgoulhon <eric.gourgoulhon@obspm.fr>, David B Malament <dmalamen@uci.edu>, Erik Curiel <erik@strangebeautiful.com>, Xiao Zhang <xzhang@amss.ac.cn>, Mu-Tao Wang <mtwang@math.columbia.edu>, Mike Cruise <a.m.cruise@bham.ac.uk>, Christian Wuthrich <beyondspacetimeseminar@gmail.com>, Zhaoyan Wu <zhaoyanwu2000@yahoo.com>, Takashi Nakamura <takashi@tap.scphys.kyoto-u.ac.jp>, Hiroyuki Nakano <hinakano@yukawa.kyoto-u.ac.jp>, Tomoya Kinugawa <kinugawa@tap.scphys.kyoto-u.ac.jp>, Tetsuya Shiromizu <shiromizu@math.nagoya-u.ac.jp>, Tatsuya Matsumoto <matsumoto@tap.scphys.kyoto-u.ac.jp>, Avneet <avneet.singh@aei.mpg.de>, Maria Alessandra Papa <maria.alessandra.papa@aei.mpg.de>, Jean-Pierre Bourguignon <jpb@ihes.fr>, Heinz-Bernd Eggenstein <heinz-bernd.eggenstein@aei.mpg.de>, Emanuele <berti@wugrav.wustl.edu>, Clifford Will <cmw@wuphys.wustl.edu>, William G Unruh <unruh@physics.ubc.ca>, Stan Whitcomb <stan.whitcomb@ligo.org>, Deirdre Shoemaker <deirdre.shoemaker@physics.gatech.edu>, Damien Texier <contactesa@esa.int>, C Y Lo <chungy.lo@gmail.com>, Jose Rodriguez <jose.rodriguez2@correo.uis.edu.co>, Jorge Rueda <jorge.rueda@icra.it>, Nigel <n.bishop@ru.ac.za>, Rosalba Perna <rosalba.perna@stonybrook.edu>, Abraham Loeb <aloeb@cfa.harvard.edu>, Valerie Connaughton <valerie@nasa.gov>, bbott_b@ligo.caltech.edu, anderson_s@ligo.caltech.edu, Gustav <g.holzegel@imperial.ac.uk>, barish_b@ligo.caltech.edu, sarah.gossan@tapir.caltech.edu, Julie Hiroto LIGO <jhiroto@ligo.caltech.edu>, Kenneth Libbrecht <kgl@caltech.edu>, Bob Taylor <taylor_r@ligo.caltech.edu>, yamamoto_h@ligo.caltech.edu,

zweizig_j@ligo.caltech.edu, swang5@caltech.edu, zhang_l@ligo.caltech.edu, Mike <zucker_m@ligo.mit.edu>, Joan Centrella <joan.centrella@nasa.gov>, Marco <marco.drago@aei.mpg.de>, Adrian Cho <acho@aaas.org>, Mark Hannam <markodh@googlemail.com>, Pedro Marronetti <pmarrone@nsf.gov>, Lee Samuel Finn <lsfinn@psu.edu>, Beverly Berger <grgsocietymail@gmail.com>, César García Marirrodriga <Cesar.Garcia@esa.int>, Paul McNamara <paul.mcnamara@esa.int>, Ian Harrison <ian.harrison@esa.int>, Jake Mattinson <fersotj@gmail.com>, Hamish Johnston <hamish.johnston@iop.org>

Ladies and Gentlemen:

What happened to the GW170817 [neutron stars](#) (pdf [attached](#))?

What was actually discovered by LIGO & Virgo, "first at the Virgo detector in Italy, then 22 milliseconds later at the LIGO-Livingston detector in Louisiana, USA, and another 3 milliseconds later at the LIGO-Hanford detector in the state of Washington, USA."?
<https://en.wikipedia.org/wiki/GW170817>

I will be happy to share my [insights](#) - see my website below.

Sincerely,

D. Chakalov
chakalov.net

Attachment: [gravity_pp_126-127.pdf](#)

NOTE

Again, if you drop a stone in a lake (see Fig. **2** from B. Schutz [above](#)) or hit an iron rail with a hammer, you will introduce stress-energy-momentum and create physical waves. But quantum and [gravitational waves](#) are not *physical* stuff: see the analogy with a school of fish on p. **30**.

The very [emanation of GWs](#), suggested by Albert Einstein in January 1918 (ref. [12], p. **3** in [gw_miracles.pdf](#)), and his earlier idea about another force-free effect of spacetime metric (p. **1** in [gm_duality.pdf](#)) known as [inertia](#), are nothing but hypotheses. Einstein (p. **62**) never suggested anything even remotely resembling "[gravitons](#)". Don't blame him for your [GW parapsychology](#).

The origin of [GW parapsychology](#) is their interpretation of the spacetime metric as some **elastic** entity ([Brian Greene](#)) endowed with physical characteristics: watch their animation of GW [here](#). [Rainer Weiss](#) explained (text [here](#)) in LIGO's video presentation '[Gravity: Making Waves](#)' (10 May 2012) by expanding and contracting **little squares** from a mesh wine bottle protector:

The waves can be represented by this object I found on a wine bottle. And it's a mesh that you can see. And the waves cause transverse to the direction in which they're moving. They're moving forward, and transverse to that the space gets tugged like this, and collapses like that. Tugged like this. And if you look carefully at this, and I'll do this a few times, you'll notice that the **little squares** in this, how they're exercising a [motion](#) where along one direction, it's obvious which direction — I mean, the direction I'm pulling in — space is getting expanded. But transverse to that, up and down, space is getting contracted. And that's the key to the whole thing.

The dynamic elasticity of spacetime metric (not "curvature", ref. [37] in [spacetime.pdf](#)) in the [propagation of GW](#) for billions of years is plain mystery. All we know is that the [pulsating](#) pattern is caused by a [physical object](#) dubbed [EM170817](#). So here we have the first conversion of some real *physical* object to something elastic and pulsating yet *purely* geometric, from the **right**-hand side to the left-hand side of [Einstein's field equations](#): see Fig. **1.1** and Fig. **1.2** in '[Gravity-Matter Duality](#)'. Now imagine very strong GWs made by the '[drawing hands](#)' from Maurits Escher below.



Which hand goes first? Matter to geometry, or geometry to matter? Read p. **62** above.

The second conversion in [GW parapsychology](#) is opposite to the first one: from something elastic and pulsating yet *purely* geometric (dubbed “gravitons”, see Kip Thorne [above](#)) to something **physical** located in the immediate neighborhood of [EM170817](#) — from the left-hand side to the **right**-hand side of Einstein’s field equations ([Robert Wald](#) and [Piotr Chrusciel](#)). Do **not** play with [laser beams](#). You need a **solid** GW detector to verify the basic ideas of GW detection (see [above](#)).

As to the second question [above](#), about what was *actually* detected by LIGO & Virgo on 17 August 2017 ([Wikipedia](#)), first you have to answer the [first question](#). The alleged [GW170814](#) from binary neutron star (BNS) merger, depicted with the artistic drawing by NASA *et al.* [above](#), can at best be illustrated with the old Tanzanian saying (p. **3** in [gw miracles.pdf](#)):

How do we know that Father Christmas has a beard? We know it, because snow falls when he shakes his beard.

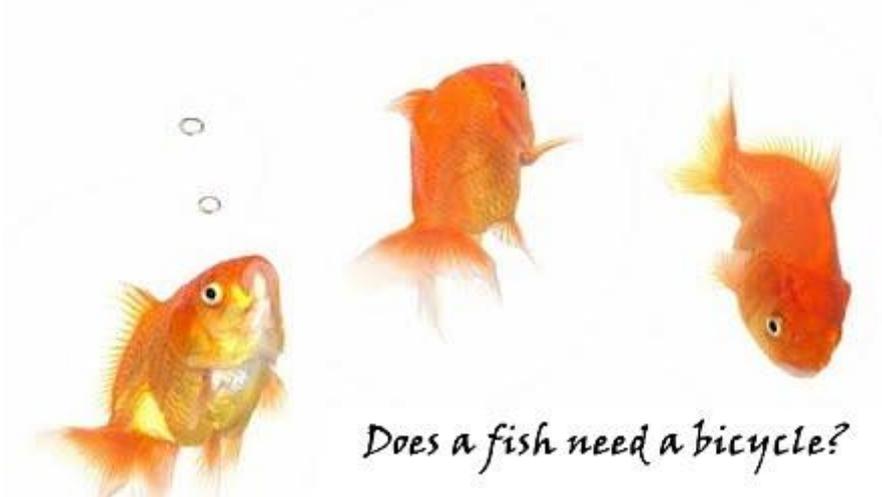
Strangely enough, [Kip Thorne](#) and two of his colleagues were awarded Nobel Prize for “detecting” [Father Christmas’ beard](#). Sad but true. Read about LIGO mafia and my first paper from 17 July 2005, entitled ‘Are Gravitational Waves Directly Observable?’, on p. **9** in [readme.pdf](#), available from [chakalov.zip](#) (app. 16Mb). **Billions** of US dollars and Euros – all taxpayers’ money – could have been saved. Yes, gravitational radiation does exist (pp. **60-64** above), but first you need to understand its *intangible* ([Hermann Bondi](#)) energy ([Hans Ohanian](#)): read ‘[Gravity-Matter Duality](#)’.

Forget about [quadrupole GWs](#) and “[gravitons](#)” — read my comment on p. **1** in ‘[Gravitational Wave Astronomy: RIP](#)’ (18 May 2016):

Comment: Due to the sensitive nature of [clean unlimited energy sources](#) from spin-0 gravitational radiation, the full paper is available only upon request ([Matthew 7:6](#)).

As an analogy (not explanation) of spin-0 gravitational radiation, see the story about five pizzas on p. **9** in ‘[Gravity-Matter Duality](#)’. Spin-0 gravitational radiation involves (but is not limited to) altering the **rate** of time (p. **119**) **locally** — check out p. **77** and try to find the original (not the doctored) [Virgo measurement](#), without any BBH “augmentation”. The **local** (p. **77**) stretching and squeezing of the **rate** (**R**) of time is supposed to originate from the new hyperimaginary axis **W** (Fig. **1** on p. **114**), which is *orthogonal* to “the direction of motion of the wave” ([The Nobel Committee for Physics](#)) in the physical spacetime. The idea of quantum “radiation”, providing **unlimited** clean energy, was proposed in March 1994 (p. **94**), but since nobody showed any interested in my theory of quantum-gravitational spacetime (p. **119**), the subject was closed on Christmas 2016 (p. **20** in [hi numbers.pdf](#)). As expected (p. **81**), none of the recipients of my email [above](#) is interested in the *origin* of gravitational radiation either, and the subject ‘What happened to the GW170817 neutron stars?’ is also [closed](#). Let them simmer in [their own sauce](#) — those who are born to be hanged need not to be drowned.

As I stated on Christmas 2016 (p. **19** in '[Hyperimaginary Numbers](#)'), I have already retired. Now I am only interested in [foundations of Mathematics](#) and don't need quantum gravity at all (p. **81**). I'm fine.



D. Chakalov
October 24, 2017
Latest update: November 4, 2017, 20:55 GMT

=====

Do not give dogs what is sacred; do not throw your pearls to pigs.
If you do, they may trample them under their feet, and turn and
tear you to pieces.

[Matthew 7:6](#)

Truth never triumphs - its [opponents](#) just die out.

Geheimrat [Max Planck](#)

Subject: Re: The 2017 Nobel Prize for physics was awarded to a **FRAUD**.
Date: Sun, 29 Oct 2017 20:36:03 +0000
Message-ID: <CAM7Ekx=xa7iBFpf6_Fh5-xHgK35Zk-7kA6KhTQViD7k0QR6LSA@mail.gmail.com>
From: Dimi Chakalov <dchakalov@gmail.com>
To: Kristina Wolff <kristina.wolff@nobel.kva.se>, Nils Martensson <nils.martensson@physics.uu.se>, David Haviland <haviland@nanophys.kth.se>, Olga Botner <olga.botner@physics.uu.se>, Thors Hans Hansson <hansson@fysik.su.se>, Gunnar Ingelman <gunnar.ingelman@physics.uu.se>
Cc: Kip <kip@tapir.caltech.edu>, Rainer Weiss <weiss@ligo.mit.edu>, LIGO Spokesperson David Shoemaker <dhs@mit.edu>, LIGO Deputy Spokesperson Laura Cadonati <cadonati@gatech.edu>, David Garfinkle <garfinkl@oakland.edu>, Gabriela Gonzalez <gonzalez@lsu.edu>, Stefano Vitale <vitale@science.unitn.it>, Eric Gustafson <egustafs@ligo.caltech.edu>, Andrzej Mariusz Trautman <amt@fuw.edu.pl>, Piotr <piotr.chrusciel@univie.ac.at>, Julie Hiroto LIGO <jhiroto@ligo.caltech.edu>, Kenneth Libbrecht <kgl@caltech.edu>, Mike <zucker_m@ligo.mit.edu>, Joan Centrella <joan.centrella@nasa.gov>, Adrian Cho <acho@aaas.org>, Mark Hannam <markodh@googlemail.com>, Lee Samuel Finn <lfsfinn@psu.edu>, Beverly Berger <grgsocietymail@gmail.com>, Hamish Johnston <hamish.johnston@iop.org>

Ladies and Gentlemen:

Please let me know who is the author of your "Scientific Background on the Nobel Prize in Physics 2017" - please see LIGO_NobelPrize2017.pdf attached.

I strongly reject the claim that "it was not until the late 1950's that it was rigorously proven that the waves actually exist as solutions to the full non-linear equations, and that they carry energy [16-18]."

If you fail to respond to this second email message by Saturday, 4 November 2017, I will consider you complicit in the **FRAUD** committed by Kip Thorne and his collaborators and will contact the appropriate scientific journals and media outlets.

If this email does not automatically bounce back, I will consider it delivered.

Looking forward to hearing from you at your earliest convenience,

Dimi Chakalov
chakalov.net

On Wed, 4 Oct 2017 12:47:58 +0000, Dimi Chakalov <dchakalov@gmail.com> wrote:

>
> Ladies and Gentlemen:
>
> The 2017 Nobel Prize for physics was awarded to a FRAUD.
>
> See LIGO_NobelPrize2017.pdf attached.
>
> Details at my website below.
>
> D. Chakalov
> chakalov.net
>

Attachment: [LIGO_NobelPrize2017.pdf](#)

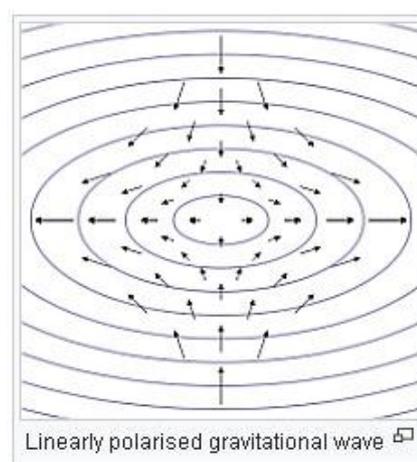
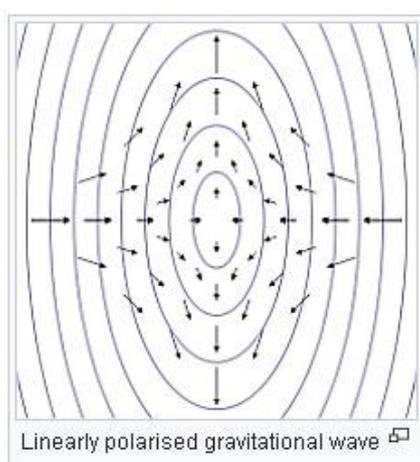
NB: Download the latest version of [FRAUD.pdf](#) at chakalov.net – D.C.

NOTE

Press Release, [3 October 2017](#): The Royal Swedish Academy of Sciences has decided to award the Nobel Prize in Physics 2017 to Rainer Weiss, Barry C. Barish, and Kip S. Thorne "for decisive contributions to the LIGO detector and the observation of gravitational waves".

What is 'gravitational wave' (GW)? Let me quote from [Wikipedia](#) (links and comment added):

In Einstein's theory of [general relativity](#), gravity is treated as a phenomenon resulting from the [curvature of spacetime](#). This curvature is caused by the presence of mass. (...) As objects with mass move around in spacetime, the curvature changes to reflect the changed locations of those objects. In certain circumstances, accelerating objects generate changes in this curvature, which propagate (**why?** – D.C.) outwards at the speed of light in a [wave-like manner](#). These propagating phenomena are known as [gravitational waves](#). As a gravitational wave passes an observer, that observer will find spacetime distorted by the effects of strain. Distances between objects increase and decrease rhythmically as the wave passes, at a frequency corresponding to that of the wave.



But the alleged "observation of gravitational waves" is impossible *in principle* — check out the **two** gravity \rightleftharpoons matter conversions in pp. **129-130** in [gravity.pdf](#) at [chakalov.net](#), and the Note on pp. **123-125** therein. The task of observing gravitational waves (GWs) is impossible in principle, because GWs are not *physical* waves, like for example the sound waves produced by vibrating membrane in a loudspeaker. Accelerating objects do **not** generate "propagating phenomena" ([Kip Thorne](#)) dubbed gravitational waves (cf. [Wikipedia](#) above). It is impossible *in principle* to observe the gravitational waves **themselves**, just as we cannot in principle observe the quantum waves with complex phase. In both cases, we observe their *physicalized* manifestations, but never the **unphysical** waves *themselves*. **No way**. Read the explanation of gravitational radiation from [29 May 2015](#) and notice that wave-like holomovement (e.g., [centipede](#)) *always* leads to **cycles**.

If the proponents of "GW astronomy" disagree, they will have to deliver **four** absurd "miracles": (i) gravitons (**Q2** in [gw_miracles.pdf](#)) with mass $m_g \leq 7.7 \times 10^{-23} \text{ eV}/c^2$, "dispersed in vacuum like massive particles" ([arXiv:1706.01812v1](#)), (ii) "vacuum" spacetime endowed *only* with [Weyl curvature](#), (iii) [black holes](#) in spacetime containing matter (no [timelike naked singularities](#)), and (iv) gravitational waves from [GW150914](#) ("In classical general relativity, a *vacuum* BBH merger does not produce any EM or particle emission whatsoever", [arXiv:1602.08492v4](#), p. **9**), for which Kip Thorne and his collaborators were awarded the Nobel Prize in Physics 2017.

All these **facts** are widely known, at least since [August 2002](#), which is why Kip Thorne and his LIGO collaborators committed an enormous **FRAUD** to get [Nobel Prize](#). No, they [aren't stupid](#). Details are provided in [readme.html](#) or [readme.pdf](#) in [chakalov.zip](#) (app. 18Mb).

D. Chakalov
29 October 2017
Latest update: 11 December 2017, 11:08 GMT

Subject: The 2017 Nobel Prize for physics was awarded to a FRAUD.

Date: Mon, 30 Oct 2017 16:16:54 +0000

Message-ID: <CAM7Ekx=cDDtkkEs+Zyt2D3TXChZ6hMxdpm7Ut2Gx1yHMYVFxyQ@mail.gmail.com>

From: Dimi Chakalov <dchakalov@gmail.com>

To: abbot_b@ligo.caltech.edu, Abby <ashtekar@gravity.psu.edu>, Abraham Loeb <aloeb@cfa.harvard.edu>, Adam Helfer <helfera@missouri.edu>, adam.m.goldstein@nasa.gov, Adria Gomez-Valent <adriagova@fqa.ub.edu>, Adrian Cho <acho@aaas.org>, Alan Coley <aac@mathstat.dal.ca>, Alan J Weinstein <ajw@caltech.edu>, Alan Rendall <rendall@uni-mainz.de>, anderson_s@ligo.caltech.edu, Andrzej Mariusz Trautman <amt@fuw.edu.pl>, arau@mpe.mpg.de, Arturo Avelino <aavelino@cfa.harvard.edu>, azk@mpe.mpg.de, bagrat.mailyan@uah.edu, Bala Iyer <bri@rri.res.in>, barish_b@ligo.caltech.edu, Beatrice Bonga <bpb165@psu.edu>, Benjamin Knispel <benjamin.knispel@aei.mpg.de>, Bernard Schutz <Bernard.Schutz@aei.mpg.de>, Bernard Schutz <bernard.schutz@cardiff.ac.uk>, Bernd Brügmann <b.bruegmann@tpi.uni-jena.de>, Beverly Berger <grgsocietymail@gmail.com>, bill.paciesas@nasa.gov, Binbin Zhang <bz0006@uah.edu>, Bob Taylor <taylor_r@ligo.caltech.edu>, Brien <brien.nolan@dcu.ie>, Bruce Allen <bruce.allen@aei.mpg.de>, buonanno@physics.umd.edu, c.m.hui@nasa.gov, Carla Cederbaum <cederbaum@math.uni-tuebingen.de>, Carlo <rovelli.carlo@gmail.com>, Carlos Sopuerta <sopuerta@ieec.uab.es>, Catherine Meusburger <catherine.meusburger@gmail.com>, Cecilia Flori <cflori@perimeterinstitute.ca>, Cesar Garcia Marirrodriga <Cesar.Garcia@esa.int>, Paul McNamara <paul.mcnamara@esa.int>, Charles Dunn <Charles.E.Dunn@jpl.nasa.gov>, Charles Torre <charles.torre@usu.edu>, charles.a.meegan@nasa.gov, Chris Isham <c.isham@imperial.ac.uk>, ckouveliotou@gwu.edu, Clifford Will <cmw@wuphys.wustl.edu>, colleen.wilson@nasa.gov, Damien Texier <contactesa@esa.int>, Daniel Kennefick <danielk@uark.edu>, Daniele Oriti <doriti@aei.mpg.de>, David B Malament <dmalamen@uci.edu>, Laszlo Szabados <lbszab@rmki.kfki.hu>, David Garfinkle <garfinkl@oakland.edu>, David Reitze <reitze@ligo.caltech.edu>, david.tierney@ucd.ie, Dieter R Brill <brill@umd.edu>, Domenico Giulini <giulini@itp.uni-hannover.de>, Don <lincoln@fnal.gov>, Eanna Flanagan <flanagan@astro.cornell.edu>, Emanuele <berti@wugrav.wustl.edu>, Eric <epoisson@uoguelph.ca>, Eric Gustafson <egustafs@ligo.caltech.edu>, Eric Linder <evlinder@lbl.gov>, Eric Plagnol <eric.plagnol@apc.univ-paris7.fr>, EricKayserBurns@gmail.com, Erik Curiel <erik@strangebeautiful.com>, Erwan Allys <allys@iap.fr>, Ettore Minguzzi <ettore.minguzzi@unifi.it>, Evangelos Melas <emelas@econ.uoa.gr>, Ezra Newman <newman@pitt.edu>, fbeyer@maths.otago.ac.nz, fersotj@gmail.com, Gabriela Gonzalez <gonzalez@lsu.edu>, Gary Horowitz <gary@physics.ucsb.edu>, gdoulis@phys.uoa.gr, George Ellis <gfrellis@gmail.com>, gerard.fitzpatrick@ucdconnect.ie, Gian Michele Graf <gian-michele.graf@itp.phys.ethz.ch>, gopapado@phys.uoa.gr, Greg Galloway <galloway@math.miami.edu>, gustafson_e@ligo.caltech.edu, Gustav <g.holzegel@imperial.ac.uk>, gyounes@email.gwu.edu, Hamish Johnston <hamish.johnston@iop.org>, Helmut <hef@aei.mpg.de>, Ian Harrison <ian.harrison@esa.int>, Ira Thorpe <james.i.thorpe@nasa.gov>, James Dilts <jdilts@ucsd.edu>, James M Nester <nester@phy.ncu.edu.tw>, Jean-Philippe Uzan <uzan@iap.fr>, jerry.fishman@nasa.gov, jhennig@maths.otago.ac.nz, Joan Centrella <joan.centrella@nasa.gov>, Joan Sola <sola@fqa.ub.edu>, Jochen Greiner <jcg@mpe.mpg.de>

Ladies and Gentlemen:

Feel free to prove me wrong - read FRAUD.pdf (2 pages) at

<http://www.god-does-not-play-dice.net/FRAUD.pdf>
(30 October 2017, 15:05 GMT)

The fun part is [just around the corner](#) :-)

D. Chakalov
chakalov.net

Subject: The 2017 Nobel Prize for physics was awarded to a FRAUD.

Date: Mon, 30 Oct 2017 16:18:26 +0000

Message-ID: <CAM7EkxmbH15pRaDgbmb0JqNxjTkPbBmciYZG4Yeu8ySR11iZMQ@mail.gmail.com>

From: Dimi Chakalov <dchakalov@gmail.com>

To: John Baez <baez@math.ucr.edu>, John Stachel <john.stachel@gmail.com>, Jörg Frauendiener <joergf@maths.otago.ac.nz>, Jorge Rueda <jorge.rueda@icra.it>, Nigel <n.bishop@ru.ac.za>, Jose Geraldo Pereira <jpereira@ift.unesp.br>, Jose M M Senovilla <josemm.senovilla@ehu.es>, Jose Rodriguez <jose.rodriguez2@correo.uis.edu.co>, Josh Goldberg <goldberg@phy.syr.edu>, JulieHiroto LIGO <jhiroto@ligo.caltech.edu>, Karel V Kuchar <kuchar@physics.utah.edu>, Karsten <karsten.danzmann@aei.mpg.de>, Kenneth Libbrecht <kgl@caltech.edu>, Kip <kip@tapir.caltech.edu>, Laszlo Szabados <lbszab@rmki.kfki.hu>, Lee Samuel Finn <lsfinn@psu.edu>, LIGO Deputy Spokesperson Laura Cadonati <cadonati@gatech.edu>, LIGO Spokesperson David Shoemaker <dhs@mit.edu>, lisa.gibby@nasa.gov, LSC Education and Public Outreach Group <lsc-epo@ligo.org>, Luca Bombelli <luca@phy.olemiss.edu>, Luciano <rezzolla@th.physik.uni-frankfurt.de>, Lukas <lukas.ifsits@univie.ac.at>, Mansi Kasliwal <mansi@astro.caltech.edu>, Marco Cavaglia <marco.cavaglia@ligo.org>, LSC Web Team <lsc-webcomm@ligo.org>, marco.drago@aei.mpg.de, Mark Hannam <markodh@googlemail.com>, Martin Hewitson <hewitson@aei.mpg.de>, Masatake Ohashi <ohashi@icrr.u-tokyo.ac.jp>, Matthew Stanbro <mcs0001@uah.edu>, Melissa <melissa.pesce.rollins@pi.infn.it>, michael burgess <jmichaelburgess@gmail.com>, Michael Holst <mholst@ucsd.edu>, michael.briggs@nasa.gov, Michele <michele.maggiore@unige.ch>, Mike <zucker_m@ligo.mit.edu>, misty.m.giles@nasa.gov, mkippen@lanl.gov, mmcleod@learner.org, narayana.bhat@nasa.gov, Niall Murchadha <niall@ucc.ie>, Norbert Straumann <norbert.straumann@gmail.com>, Oliver Jennrich <oliver.jennrich@esa.int>, Oliver Roberts <oliver.roberts@ucd.ie>, osc@ligo.org, Paul McNamara <paul.mcnamara@esa.int>, Paul Steinhardt <steinh@princeton.edu>, Paul Tod <tod@maths.ox.ac.uk>, Pedro Marronetti <pmarrone@nsf.gov>, peter.a.jenke@nasa.gov, Philippe Jetzer <jetzer@physik.uzh.ch>, Piotr <piotr.chrusciel@univie.ac.at>, pv0004@uah.edu, Rainer Weiss <weiss@ligo.mit.edu>, Remo <ruffini@icra.it>, Richard M Schoen <schoen@math.stanford.edu>, Erik Curiel <erik@strangebeautiful.com>, Rob Preece <rob.preece@nasa.gov>, Robert Geroch <geroch@uchicago.edu>, Robert J Low <mtx014@coventry.ac.uk>, Robert Kirshner <rkirshner@cfa.harvard.edu>, Robert M Wald <rmwa@midway.uchicago.edu>, Rod Diehl <rod@mpe.mpg.de>, Roger Penrose <penroad@wadh.ox.ac.uk>, Rosalba Perna <rosalba.perna@stonybrook.edu>, Sanjeev Dhurandhar <sanjeev@iucaa.ernet.in>, sarah.gossan@tapir.caltech.edu, Sascha Husa <sascha.husa@gmail.com>, Saul Teukolsky <saul@astro.cornell.edu>, SciTech.Editorial@esa.int, Sean Hayward <sean_a_hayward@yahoo.co.uk>, Seiji Kawamura <seiji@icrr.u-tokyo.ac.jp>, sheila.mcbreen@ucd.ie, Stefano Vitale <vitale@science.unitn.it>, stephen.e.elrod@nasa.gov, Steven Weinberg <weinberg@physics.utexas.edu>, swang5@caltech.edu, Takaaki Kajita <kajita@icrr.u-tokyo.ac.jp>, Tarun Souradeep <tarun@iucaa.ernet.in>, Bob Taylor <taylor_r@ligo.caltech.edu>, Ulrich H Gerlach <gerlach.1@osu.edu>, Valerie Connaughton <valerie@nasa.gov>, vero.pelassa@gmail.com, Vincenzo Branchina <vincenzo.branchina@ct.infn.it>, William G Unruh <unruh@physics.ubc.ca>, William.Cleveland@nasa.gov, Xiao Zhang <xzhang@amss.ac.cn>, yamamoto_h@ligo.caltech.edu, Yuan K Ha <yuanha@temple.edu>, zhang_l@ligo.caltech.edu, Zhao-Yan Wu <zhaoyanwu2000@yahoo.com>, zweizig_j@ligo.caltech.edu

Ladies and Gentlemen:

Feel free to prove me wrong - read FRAUD.pdf (2 pages) at

<http://www.god-does-not-play-dice.net/FRAUD.pdf>
(30 October 2017, 15:05 GMT)

The fun part is [just around the corner](#) :-)

D. Chakalov
chakalov.net

NOTE

Today is Thursday, 23 November 2017, and nobody from the Nobel Committee for Physics has replied to my inquiry from Sunday, [29 October 2017](#). I also sent two email messages to many theoretical physicists on 30 October 2017 at [16:16](#) and at [16:18](#), in which I wrote that the fun part is [just around the corner](#). It is a great pleasure to present the crux of quantum gravity in one page only. It is all about the *potential* quantum-gravitational “waves” — just follow the links.

Let me first recall the gravitational conversions mentioned [above](#), matter to gravity and gravity to matter, explained on pp. **129-130** in [gravity.pdf](#). I will assume you’ve read the Note there, and will briefly elaborate on the reasons why the gravitational waves *themselves* cannot be observed in principle, just as it is impossible in principle to observe intact, **uncollapsed** quantum waves.

Look at [Slide 7](#) in [Quantum Spacetime](#), depicting three *consecutive* wave \rightleftharpoons particle conversions. It is ‘the only mystery in quantum mechanics’ from 1911, thanks to Charles Wilson. Unlike the double-slit experiment from 1927, there is nothing “[fundamentally probabilistic](#)” in [Slide 7](#). Yet we cannot observe the quantum waves with complex phase ([Erwin Schrödinger](#)), and can only suggest [wave-particle duality](#) viz. ‘quantum reality’ as an alternative to physical reality ([Slide 5](#)).

I went one step further and suggested [gravity-matter duality](#), stressing that the **origin** of gravity is not physical reality, namely, the source of gravity is not like a pizza delivered to your door step (the right-hand side of Einstein’s field equations). In wave \rightleftharpoons particle duality and gravity \rightleftharpoons matter duality, the left-hand sides refer to *potential* reality “just in the middle between possibility and reality” ([Werner Heisenberg](#)), which, in the case of gravity \rightleftharpoons matter duality, is considered to be Einstein’s *Gesamtfeld* (p. **2** and Sec. **3** in [Gravity-Matter Duality](#)). If *potential* reality was physical reality, gravity will be *bona fide* physical field: the gravitational waves (GWs) will be similar to sound waves generated by vibrating membrane in a loudspeaker (p. **123** in [gravity.pdf](#)), and the [inertial mass](#) of an accelerating particle will be “simply a back-reaction to its own gravitational field” (Wolfgang Rindler, p. **22**), resembling the resistance to bullet passing through “its own” water ([Slide 5](#)). To cut the long story short, the gravitational and quantum “waves” are neither physical “pizzas” (p. **2** [above](#)) nor some “[fictitious force](#)” or “[state of knowledge](#)”. Both GR and QM suffer from their failure to implement the phenomenon of *potentia* known since [Aristotle](#).

The manifestation of [gravity \$\rightleftharpoons\$ matter duality](#) is similar to its quantum sibling to the extent to which the consecutive wave \rightleftharpoons particle conversions in [Slide 7](#) from [Quantum Spacetime](#) resemble the consecutive gravity \rightleftharpoons matter “pizzas” explained on p. **9** in [Gravity-Matter Duality](#). Both the so-called computing with “[qubits](#)”, based on manipulating quantum entanglement [locally](#) (watch [Henry Stapp](#)) during a *finite* spacetime interval, and the observation of [GWs themselves](#) are impossible [in principle](#). We can see [only](#) the “[swathe](#)” of **physicalized** gravity, and never its underlying **unphysical** “wave”. In QM parlance, all 4D events ‘here and now’, constituting the [transient](#) (Sic!) “[slice](#)” of spacetime, are created by “collapsed” (**A2** in [Slide 19](#)) “waves” of gravity, without *any* gaps whatsoever in the spacetime continuum (pp. **105-119** in [gravity.pdf](#)).

As I stressed [earlier](#), the **facts** about GWs are widely known, at least since [August 2002](#), which is why Kip Thorne and his collaborators had to organize an enormous **FRAUD** to get Nobel Prize. But unlike the proverbial [Nigerian widows](#), they did not play with small cash. They wanted *much* more, and [Kip Thorne](#) already collected 250,000 USD, knowing bloody well (he [isn’t stupid at all](#)) that the crucial refs. [16-18] [above](#) are **false**. What is “a person or thing intended to deceive others, typically by unjustifiably claiming or being credited with [accomplishments or qualities](#)”? Voila.

One day in the distant future the Nobel Committee for Physics will have to retract not one but two Nobel Prizes, awarded in [2017](#) and in [1993](#). I probably won’t be here to witness this spectacular event — I am already old and may kick the bucket any time soon. Besides, I have everything I need to work on my [project](#) (p. **20** in [Hyperimaginary Numbers](#)). Luckily, it has nothing to do with the Nobel Committee and their distinguished academic scholars. Does a fish need a bicycle?

D. Chakalov

November 5, 2017

Last update: December 11, 2017, 13:35 GMT

ADDENDUM

I have no idea how spin-2 “gravitons” could be “emitted” at the speed of light (see [Wikipedia](#)), but perhaps it could help to compare it to photon emission (p. 2 in [Hyperimaginary Numbers](#)):

Imagine that you enter your living room at night and switch on the light. If it is a [light bulb](#), it will emit photons with rate app. [1.8 x 10²⁰ photons per second](#). All photons are identical and have particular wavelength corresponding to the “distance” (if any) between the two “orbits” (if any) of electrons (see h in Fig. 1 below).

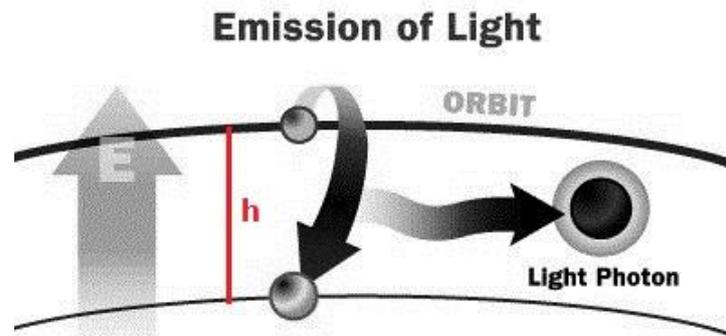


Fig. 1

But it is a vacuum mystery, and mysteries don’t help much. How come nothing goes wrong with producing 1.8×10^{20} *identical photons per second*, ever? Also, the photons were not “attached” to electrons *before* being released; they *emerged* from the quantum vacuum ([Peter Milonni](#)), and at the instant of their *emergence*, all photons were *already* accelerated at the “speed” of light — instantaneously.

We don’t know how *yet-to-become* photons exist in the quantum vacuum and how they could be instantaneously accelerated at the “speed” of light. It is a deep mystery, yet we have a scientific theory which works flawlessly: read the yellow button story on p. 15 in [Hyperimaginary Numbers](#).

But do we have *any* [theory of gravitational waves](#)? Recall the quote from Wikipedia [above](#): you are invited to believe in some “curvature” (if any) which, for some *totally* unknown reasons (compare it with [photons](#)), would somehow emit spin-2 “gravitons” (see [below](#)) by means of “pulsating” gravitational wave “[outwards](#)” and at the [speed of light](#) and in a [wave-like manner](#).

Sounds like a “miracle” to me. Accelerated or not, physical bodies do **not** “pulsate” like [vibrating membrane](#) in a loudspeaker. Suppose their “curvature” (if any) does, but what is “curvature”? As Hyun Seok Yang explained in [arXiv:1111.0015v3](#), the *metric* field in [General Relativity](#) (Fig. 2) is supposed to have some peculiar *elasticity* endowed with (“dark smooth”, [Sean Carroll](#)) **tension**:

That is, the (flat) spacetime behaves like a metrical elasticity which [opposes](#) the [curving of space](#). But this picture rather exhibits a puzzling nature of flat spacetime because the flat spacetime should be a completely empty space without any kind of energy as we remarked above. How is it possible for an empty space of **nothing** to behave like an elastic body with tension ?

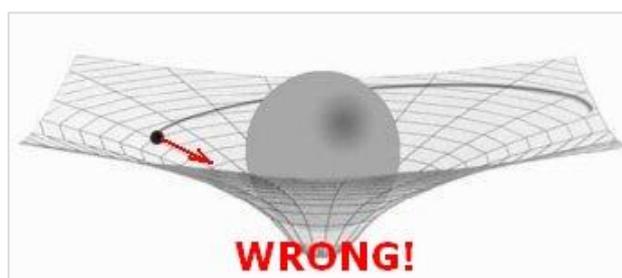


Fig. 2

Just like the photons [above](#), the alleged gravitational “field” *emerges* out of **nothing**, yet it can “[pulsate](#)” and produce spin-2 “[gravitons](#)”, and eventually “the most powerful explosion humans have ever detected except for the big bang” ([Kip Thorne](#)), estimated at around [5.4×10⁵⁴ erg](#).

Do you smell a rat? Don’t worry, because the Nobel Prize laureate Kip Thorne has proved, beyond any doubt, that you too can produce “[gravitons](#)”: check out his professional recipe on p. **6** in [readme.pdf](#) in [chakalov.net](#). Or go directly to the source, Exercise 27.8, 1227.1.K.pdf, [pp. 31-32](#):

Problem: *Gravitational waves from arm waving*

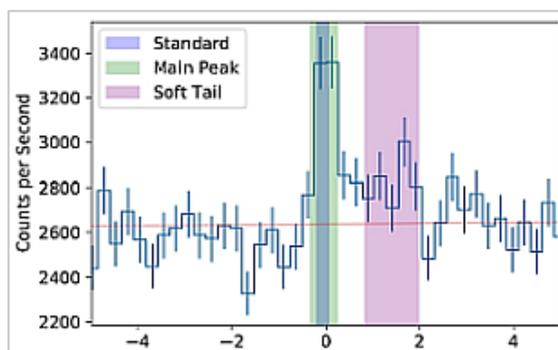
Wave your arms rapidly, and thereby try to generate gravitational waves.

(a) Compute in order of magnitude, using classical general relativity, the wavelength of the waves you generate and their dimensionless amplitude at a distance of one wavelength away from you.

(b) How many gravitons do you produce per second?

How many “[gravitons](#)” per second did you produce? Compare your result to the one from an average [Hummingbird](#), in line with Thorne’s recipe (a) above, and the [Nobel Committee for Physics](#) will certainly contact you [very soon](#).

Alternatively, you may choose to work only with the **facts** from gravitation and astronomy ([Daniel Pomarède](#) and [holon.pdf](#)). Recently, astronomers suggested that “the panchromatic photons, hereafter EM170817, are spatially, temporally and physically associated with GW170817” (Mansi Kasliwal *et al.*, [arXiv:1710.05436v1](#)). Look at what [Fermi Gamma-ray Space Telescope](#) detected, from [arXiv:1710.05446v1](#): no “[post-merger signal](#)” nor [neutrino emission](#).



[Phil Evans](#) acknowledged that “it’s possible that a neutron star was formed at least for a very short time — but we can’t be certain.” [Nothing is certain](#). According to [Wikipedia](#), [EM170817](#) could be caused by “either a neutron star heavier than any known neutron star, or a [black hole](#) lighter than any known black hole.[25]” Matching the factual event [EM170817](#) to some alleged “[GW170817](#)” (excerpts [here!](#)) is like pretending that you’ve seen an elephant, only cannot show its trunk. It could be *anything*, say, a [giraffe](#). Or perhaps an animal you [have never seen before](#).

Do not rush into judgment. Examine the facts without wishful thinking, and recall Albert Einstein (p. **62** in [gravity.pdf](#)):

The right side is a formal condensation of all things whose comprehension in the sense of a field-theory is still problematic. Not for a moment, of course, did I doubt that this formulation was merely a makeshift in order to give the general principle of relativity a preliminary closed expression. For it was essentially not anything more than a theory of the gravitational field, which was somewhat artificially isolated from a total field (*Gesamtfeld*) of as [yet unknown structure](#).

You may never be awarded the [Nobel Prize in Physics](#), however.

D. Chakalov

November 5, 2017

Last update: November 25, 2017, 13:39 GMT

ÜBER DAS GESAMTFELD IN DER ALLGEMEINEN RELATIVITÄTSTHEORIE

In English, the title of this philosophical essay means 'About the *Gesamtfeld* in General Relativity'. In Mandarin, it reads: 从阿里巴巴购买所有你需要的 (maybe). Point is, we don't know what the *Gesamtfeld* is, so let's try first to find out what it is not.

I will argue, after eliminating all alternative explanations of Einstein's *Gesamtfeld*, that "whatever remains, however improbable, must be the truth" ([Arthur Conan Doyle](#)). It turns out that the only available explanation leads to a luxonic **pre**-geometric plenum on [null hypersurface](#), which exists as *potential* reality and **wraps** the entire physical world at its spacetime "boundaries" at null-and-spacelike infinity. Physically, we can "look" at Einstein's *Gesamtfeld* only from our 3D "balloon" expanding along the (hyperimaginary) axis **W** (Figs. 4 and 5 in [Gravity-Matter Duality](#)), and will obtain two images from it, depending on whether we look toward the largest section of our 3D balloon or toward the smallest section of infinitesimal spacetime region of our 3D balloon. Yet the *Gesamtfeld* is neither "large" nor "small", because it does not have metric (p. 107 in [gravity.pdf](#)). How "large" or "small" are the *ideas* of a tree and that of a mountain? Thus, we identify 'God's thoughts' ([Albert Einstein](#)) with his *Gesamtfeld*. The original idea is from Plato (Fig. 4 in [CEN.pdf](#)); I only added the doctrine of trialism (Slide 14 in [Quantum Spacetime](#)).

Einstein's *Gesamtfeld* (total field, [Kevin Brown](#)) is definitely not 'physical reality *out there*', like a [pizza](#) delivered to your door step (p. 2 and Sec. 3 in [Gravity-Matter Duality](#)). If it were, the [dynamic contributions](#) of gravity to matter (recall Escher's [drawing hands](#)) would have existed as 'pizza *out there*' **before** being delivered to the right-hand side of Einstein's field equations. To explain 'physical reality *out there*', suppose at some instant **P** we look at the Sun: we see its **past** state 'out there', which was its physical state about [8 minutes before](#) we saw it at **P**. At exactly the same instant **P**, the Sun has a new physical state, which is 'out there' in *our future*, and surely we will observe it **after** roughly [8 minutes](#) as well. This is our operational definition of 'physical reality *out there*' or simply 'physical reality': at every event **P**, there are two physical states 'out there', in the **past** and in the **future** sections of the [light cone](#) with apex at **P**. Thus, the *physical* reality is made by facts and nothing but facts. Gravity is [ontologically different](#) and richer: only its *physicalized* manifestations are 'facts', while their *source* is *potential* reality "just in the middle between possibility and reality" ([Werner Heisenberg](#)), which does not live *anywhere* on the [light cone](#). It has only *physicalized* footprints on the *fleeting* event **P** (**A2** in [Slide 19](#)): see Fig. 3 in [Gravity-Matter Duality](#) and 'the Dragon biting its tail' on p. 3 in [Penrose-Norris Diagram](#).

We also know that the *source* of gravity is different from the intact, **uncollapsed** quantum waves ([Erwin Schrödinger](#)), although in both cases we face two *types* of potential reality — gravitational waves (**GWs**) and quantum waves. If we denounce the difference between *potential* reality and *physical* reality and keep only the latter, we will be haunted by *Gespensterfelder* ("spooky [action at a distance](#)"), non-baryonic "[dark matter](#)" and "[dark energy](#)", to name but a few. Very bad idea.

But in what sense the potential gravitational waves (**GWs**) differ from their quantum counterpart? Look at the way we define *potential* gravitational reality as **unphysical** state of the entire physical universe, located *exactly* at the "boundary" of the physical world at null-and-spacelike infinity: see the 'two pint beer' on p. 2 in [Penrose-Norris Diagram](#) and the 'accelerated elevator' viewed as '[closed system](#)' depicted with Fig. 5 in [Gravity-Matter Duality](#). Human cognition is inherently relational, and in order to even *think* about the entire physical world as 'closed accelerated system', we need to define its global "acceleration" with respect to an **ideal** (not "[real](#)") inertial observer, which (not "Who") is at **absolute** rest with respect to the global **flow** of 4D events, like the banks of the [Heraclitean river](#) with respect to which we claim that 'you cannot look twice at the same river'. Isaac Newton interpreted the 'river banks' as [absolute space](#) at absolute rest. The same absolute object is called [luminiferous aether](#): "If light takes several years to reach us from a distant star, it is no longer on the star, nor is it on the earth. It must be somewhere, and supported, so to speak, by some material agency" ([Henri Poincaré](#)). Surely light is "supported", but not by some "material agency", because 'potential reality' or *Res potentia* is not placed "somewhere" but on [null hypersurface](#) (**A2** in [Slide 19](#)). It is also an [atemporal](#) **pre**-geometric plenum, which of course cannot have [metric](#) (p. 107 in [gravity.pdf](#)). Therefore, **it** is not 'matter' (*Res extensa*) and cannot ruin the theory of relativity by having only a *footprint* at **P** (see [above](#)).

We can only observe its *physicalized* effects, for example, only one type of mass-energy dubbed "positive" (p. **105** in [gravity.pdf](#)), thanks to the fundamental *asymmetry* of the [Heraclitean river](#). To cut the long story short, all problems with the "boundaries" of spacetime at "infinity" (e.g., [Helmut Friedrich](#)) are from ignoring the Heraclitean *flow* of 4D events (Fig. **3** in [Gravity-Matter Duality](#)). Once we uncover the new [hyperimaginary numbers](#), we will be able to define Finite Infinity (**FI**, see pp. **6-7** in [Penrose-Norris Diagram](#)) and use brand new presentation of 'zero' to describe the *perfect* continuum — no "gaps" no "jumps" — of quantum-gravitational spacetime.

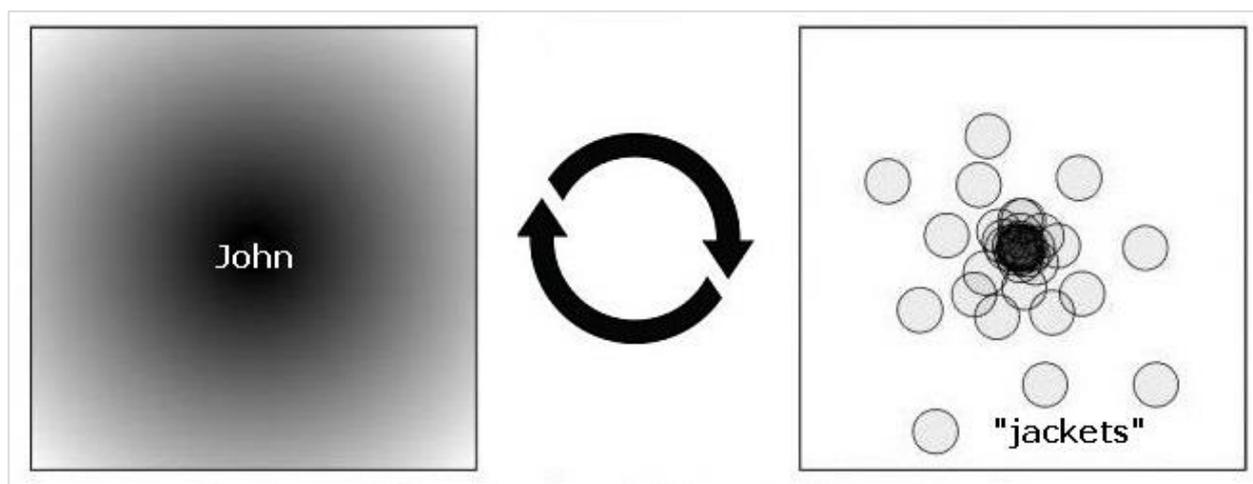
All we need is [Mathematics](#). There are no genuine "gravitational energy" nor genuine "vacuum energy" — we observe only their *physicalized* "jackets" (p. **3** in [CEN.pdf](#)) cast from/by Einstein's [Gesamtfeld](#) on the *perfect* continuum of quantum-gravitational spacetime: Dead matter makes quantum jumps; the living and quantum-gravitational matter is smarter. We fully endorse Erwin Schrödinger ([1926](#)): "Wenn es doch bei dieser verdammten Quantenspringerei bleiben soll, so bedaure ich, mich mit der Quantentheorie überhaupt beschäftigt zu haben." (If we have to go on with these damned quantum jumps, then I'm sorry that I ever got involved.) As he explained in *The Interpretation of Quantum Mechanics* (Dublin Seminars (1949-1955) and Other Unpublished Essays, ed. by Michel Bitbol, Ox Bow Press, Woodbridge, [1995](#)):

Let me say at the outset, that in this discourse, I am opposing not a few special statements of quantum mechanics held today (1950s), I am opposing as it were the whole of it, I am opposing its basic views that have been shaped 25 years ago, when Max Born put forward his [probability interpretation](#), which was accepted by almost everybody. (...) I don't like it, and I'm sorry I ever had anything to do with it.

Any suggestions? I have so far received only one, from Prof. Dr. rer. nat. Maurice de Gosson at the University of Vienna: "Buzz off, idiot!" (p. **5** in [Penrose-Norris Diagram](#)).

D. Chakalov
November 10, 2017
Last update: November 16, 2017, 12:00 GMT

WHAT IS QUANTUM-GRAVITATIONAL MASS?



I was reminded today of the [controversy](#) around the [neutrino mass](#). How does it [emerge](#)? What is its ultimate [source](#)? Let me offer an analogy from [cognitive psychology](#): replace 'quantum mass' with '[meaning](#)', and keep in mind that every invariant 'meaning' can have different "[flavors](#)".

You can see [three flavors](#) of neutrino (also called "[jackets](#)") — electron, muon, and tau — [here](#). The poor photon (see [above](#)) has only one "flavor" and hence can emerge only by one "jacket" (p. **3** in [CEN.pdf](#)). Point is, in all cases of *emerging* quantum mass in the form of 'particle', the *source* of the mass is [zero](#), in the sense that the *source* ([John](#)) is **not** '[physical reality out there](#)'.

Still confused with the [emergence](#) of quantum mass? Try the experiment with your brain on p. **2** in [Hyperimaginary Numbers](#), reproduced [below](#). You can produce two "particles", each having two distinct "flavors", depicted in the drawing below. Point is, their common source (called 'John') is **UN**speakable, so I really don't know what 'mass' is. I hope is to see a family of Higgs-like bosons at 14 TeV in [2018](#), including a new one with spin-**2** "flavor" (Slide **10** in [Quantum Spacetime](#)), after which people will (hopefully) get serious about awarding [Nobel Prizes](#). [Enough is enough](#).



Text to embed in QR Code:

You can't hide a piece of broccoli in a glass of milk.



Text to embed in QR Code:

Who has no horse may ride on a staff.



Text to embed in QR Code:

Don't wear polka dot underwear under white shorts.



Text to embed in QR Code:

Faute de mieux, on couche avec sa femme.

Two invariant meanings, each with two distinct "flavors" (see [below](#)). The ultimate *source* of all meanings ([quantum masses](#)) is the **UN**speakable cognitive vacuum (called 'John'), similar to the vacuum in QED ([Peter Milonni](#)).

Here is the experiment with your brain, at p. **2** in [Hyperimaginary Numbers](#):

Consider the *meanings* explicated with these four sayings:

1. You can't hide a piece of broccoli in a glass of milk.
2. Who has no horse may ride on a staff.
3. Don't wear polka dot underwear under white shorts.
4. Faute de mieux, on couche avec sa femme.

If you can understand the meanings of these sayings, which of them presented similar meanings? My answer is **1 & 3** and **2 & 4**.

The four meanings above (dubbed "jackets") are not presented in the human brain as '[physical reality](#)', like some neural "[correlates](#)" isomorphic to the text embedded in [QR Code](#) — the number

of 'meanings' which can spring from the **UN**speakable cognitive vacuum is indefinable. Likewise with the quantum vacuum: "the electric and magnetic fields do not have definite values" ([Peter Milonni](#)), which is why the [energy density of the vacuum](#) is indefinable.

Following the analogy suggested [above](#), see below three "flavors" of neutrino, dubbed electron, muon, and tau. Keep in mind that they are only 'John's jackets', while their ultimate source, called 'John' (p. **3** in [CEN.pdf](#)), is like 'vacuum': the probability for observing John *itself* is zero.



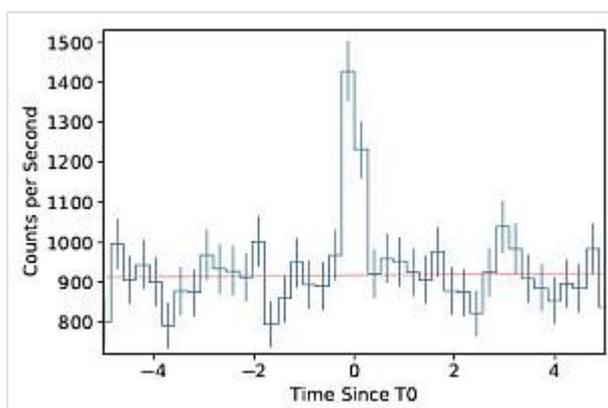
Their invariant 'meaning', as well the invariant 'meaning' of photon (see [above](#)), are safely kept in the **dual** vacuum: in spacetime engineering (p. **11** in [Hyperimaginary Numbers](#)), we work with **dual** presentations of cognitive vacuum & quantum vacuum, in line with the doctrine of *trialism* (Slide **14** in [Quantum Spacetime](#)). The initial proposal is from March 1994 (p. **94** in [gravity.pdf](#)).

As to the *origin* of gravity (see [above](#)), recall Escher's [drawing hands](#) and Fig. **1** in [Gravity-Matter Duality](#): if gravity \Leftrightarrow matter determination was carried out among two forms of '[physical reality out there](#)', you will have to introduce a new *background* spacetime to define which goes first and when, either gravity or matter. But there is no *background* spacetime with push-pull oscillations from gravity \Leftrightarrow matter determinations. Only an omnipresent, [atemporal](#), and [pre-geometric plenum](#) hidden "inside" the instant 'here and now' (**A2** in [Slide 19](#)).

In summary, the quantum-gravitational spacetime is made by [perfectly continual](#) *physicalized* "jackets", while their ultimate source (called 'John', after [John 1:1](#)) is perfectly hidden by the "speed" of light (**A2** in [Slide 19](#)): [Luke 17:21](#). Not surprisingly, people [don't like it](#).

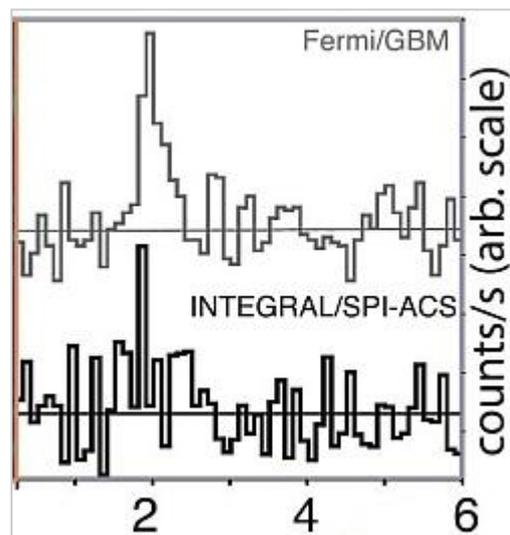
All this goes back to February 5, 1987. I presented the widely known, ever since 1911, **fact** of 'quantum reality' ([Slide 7](#) in [Quantum Spacetime](#)) at a seminar at the Institute for Nuclear Research and Nuclear Energy at the Bulgarian Academy of Sciences in Sofia. It was a bad idea, because I lost my job next month (p. **4** in [Penrose-Norris Diagram](#)). Although none of my former colleagues called me idiot, like [Maurice de Gosson](#) did, it was really sad to see how deeply people hate the bold **facts** we know from [Erwin Schrödinger](#) and [Werner Heisenberg](#). Same with [GWs](#).

Finally, look [again](#) at the event dubbed by LIGO and Virgo "[GW170817](#)" ([arXiv:1710.05833v2](#)): where is the crucial "[post-merger signal](#)" ? Notice also the actual observation by Fermi Gamma-ray Burst Monitor and INTEGRAL below, from Fig. 2 in [arXiv:1710.05833v2](#) by LIGO and Virgo.



EM170817

17 August 2017, 12:41 UTC



Five days after 17 August 2017, on 22 August 2017 astronomers detected some *transient* object, showed below with tick marks (M. Kasliwal *et al.*, [arXiv:1710.05436v1](#), p. 68):



Figure S1: Hubble Space Telescope WFC3/F336W ultraviolet image of EM170817 and NGC 4993, taken 2017 August 22. North is up, east is to the left, and a 500 scale-bar is indicated. The position of the transient is shown with tick marks.

The first *verifiable* recording of EM170817 is from 17 August 2017 at 23:31 UTC: see Table S1 on p. 69 in [arXiv:1710.05436v1](#). Nobody knows what has been happening to "GW170817" *and* to EM170817 on 17 August 2017 for **over 10 hours**, between [12:41 UTC](#) and 23:31 UTC. In facts, it is not at all clear what has been happening to "GW170817" *and* to EM170817 for **over 5 days**, between 17 August 2017 at [12:41 UTC](#) and 22 August 2017 at [20:19 UDT](#) (*ibid.*, p. 71). We have

only a bunch of [unfettered speculations](#) inferred from various observations of EM170817, but not a coherent theory of **all** types of gravity \Leftrightarrow matter conversions. [Get real](#).

Let me also quote from 'Seeing One Example Of Merging Neutron Stars Raises Five Incredible Questions', by [Ethan Siegel](#). *Forbes*, October 20, 2017 (links added; watch animation [here](#)).



[Something is fishy here.](#)

2.) What causes so much matter to be ejected from a merger like this? Our best theoretical models predicted, for neutron star-neutron star mergers such as this, there would be a bright light signal in the ultraviolet and optical parts of the spectrum for about a day, and then it would dim and fade away. But instead, it lasted [two days before beginning to dim](#), telling us that much, much more matter was ejected during this merger than we had anticipated. (...) If the core of this object, post-merger, collapsed to a black hole immediately, though, there would be no ejecta! If, instead, it became a hypermassive neutron star, it should have been rotating extremely rapidly (...).

5.) What causes gamma-ray bursts to be so bright in so many directions, not in a cone?

And how about the *crucial* neutrino emission? "No neutrino candidates were found in $t_c \pm 500$ s (Alvarez-Muniz et al. 2017) nor in the 14 day period after it." ([arXiv:1710.05436v1](#), p. 27.) How come you have short gamma-ray burst (sGRB) at the merger [above](#), but no neutrino emission?

NB: The key question is this: Can you match EM170817 from [17 August 2017](#) to "GW170817"? Namely, can you **short-circuit** matter (EM170817) and geometry? Einstein tried many times to find such 'short circuit', until his [last days](#). You will need some Biblical "[miracle](#)". [Forget it](#).

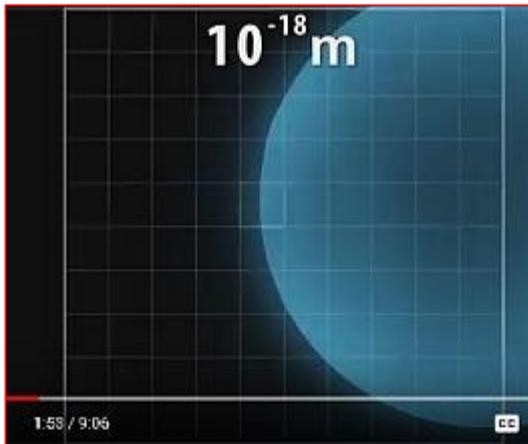
Only Advanced GW astronomy ([AGWA](#)) could help you define GW "observation" (if any) — check out the (incomplete) list [above](#).

As to EM170817, many professional astronomers deeply believe that "the panchromatic photons, hereafter EM170817, are spatially, temporally and physically associated with GW170817" (Mansi Kasliwal *et al.*, [arXiv:1710.05436v1](#), p. 5). It reminds me of the quiz I learned years ago from my teenage daughter: What do you see in the drawing below?

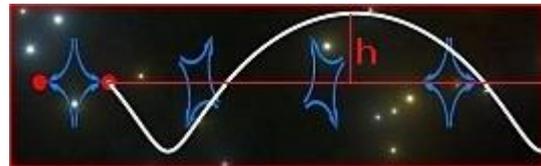


Obviously, this is a pink elephant walking on a tight rope, only [it just fell off](#). Now replace the 'tight rope' with the actual EM170817 [above](#), and you will be ready to support your LIGO & Virgo colleagues. Have you seen [pink elephant walking on a tight rope](#)? Some people did, in [1950's](#).

If you are new to the century-old problem of gravitational waves (ref. [12] in [gw miracles.pdf](#)), let me stress that **gravitational radiation (GRAD)** and **energy nonconservation** do exist, but cannot *in principle* be detected with LIGO, Virgo, and all GW "detectors" build on the basis of the [linearized approximation](#) of GR ([Jose Pereira](#)): read Herrmann Weyl from October 1944 [below](#). Now watch Rana Adhikari in the video at [YouTube](#) from January 5, 2017.



Pay special attention during [5:31-6:50](#) and [7:30-8:28](#) to the crucial issues "it's a matter of timing" and how to "engineer quantum noise", related to [Heisenberg's uncertainty principle \(8:00-8:11\)](#). To speculate about quantum "fussiness" at 10^{-18} m (see the snapshot at 1:53) and *dimensionless* GW amplitude **h**, you need new [quantum gravity](#), yet the gravitational '[attractive](#)' and '[repulsive](#)' energy **cannot** be observed "online".



Why [quantum gravity](#)? Because the *linearized* approximation of GR can show only a dead frozen snapshot from [already physicalized contributions from gravity](#), which can be used, for example, to adjust the [GPS navigation](#) (p. **16** in [gravity.pdf](#)). The detection of GWs *themselves* requires to watch them with **photons** "online", as they unfold during the time recorded with Rana Adhikari's **clock**, which is impossible *in principle*: check out Rovelli's [non-metric "time"](#). The absence of such global, non-metric "time" makes "[quantum computing](#)" impossible as well. Rana Adhikari could speculate about "timing" ([5:31-6:50](#)) **iff** his operational spacetime region was not 10^{-18} m (see above) but 10^{-2} m, because the crucial time-energy uncertainty relation ([John Baez](#)) is irrelevant at the length scale of tables and chair. With quantum "fussiness", we cannot even imagine a "rod" with length 10^{-18} m, because its two endpoints will be anything but 'points'. Also, the [GW strain](#) amplitude **h** is *dimensionless*, but nobody knows how **h** (10^{-22} in "[GW170817](#)") could be **coupled** to the dimensionless [quantum-wave amplitude](#). In general, the entire theory of GW "detection" depends on a host of murky hypotheses supported *only* with [wishful thinking](#). [Forget it](#).

This whole crap (pardon my French) has nothing to do with *the* only available theory of GRAD, suggested by Hermann Bondi in 1961 and published one year later ([Paper VII](#), p. 23 and Sec. 5, pp. 43-47). The *non-linear* energy transport by GRAD and Bondi's 'news field' are totally ignored by the proponents of GW astronomy, although they know very well their [insoluble problems](#), at least since [August 2002](#) (see Martin Walker, p. **2** in [Schutz.pdf](#)) We need quantum gravity to (hopefully) understand the fundamental gravity \rightleftharpoons matter conversions: see **NB** [above](#).

The only reason for my interest in LIGO's crap is to find out whether my theory of quantum gravity and GRAD (see my note from 29 May 2015 [above](#)) can be improved (see [below](#)). Surely nobody from the theoretical physics community will react to my [messages](#). To quote Max Planck (*Philosophy of Physics*, Norton, New York, 1936, [p. 97](#)):

An important scientific innovation rarely makes its way by gradually winning over and converting its opponents: it rarely happens that Saul becomes Paul. What does happen is that its opponents gradually die out and that the growing generation is familiarized with the idea from the beginning: another instance of the fact that the future lies with youth.

D. Chakalov
 November 12, 2017
 Last update: December 12, 2017, 11:18 GMT

=====

[Ethan Siegel](https://www.forbes.com/sites/startswithabang/2017/10/20/seeing-one-example-of-merging-neutron-stars-raises-five-incredible-questions/), Seeing One Example Of Merging Neutron Stars Raises Five Incredible Questions, *Forbes*, October 20, 2017
<https://www.forbes.com/sites/startswithabang/2017/10/20/seeing-one-example-of-merging-neutron-stars-raises-five-incredible-questions/>

"2.) What causes so much matter to be ejected from a merger like this? Our best theoretical models predicted, for neutron star-neutron star mergers such as this, there would be a bright light signal in the ultraviolet and optical parts of the spectrum for about a day, and then it would dim and fade away. But instead, it lasted two days before beginning to dim, telling us that much, much more matter was ejected during this merger than we had anticipated."

"If the core of this object, post-merger, collapsed to a black hole immediately, though, there would be no ejecta! If, instead, it became a hypermassive neutron star, it should have been rotating extremely rapidly (...). Something is fishy here. Either we have a rapidly rotating neutron star that, for some reason, is not a magnetar, or we had ejecta for hundreds of milliseconds and our physics doesn't add up the way we think it should."

"5.) What causes gamma-ray bursts to be so bright in so many directions, not in a cone?"

Ethan Siegel, Beyond Black Holes: Could LIGO Have Detected Merging Neutron Stars For The First Time? *Forbes*, August 23, 2017
<https://www.forbes.com/sites/startswithabang/2017/08/23/beyond-black-holes-could-ligo-have-detected-merging-neutron-stars-for-the-first-time/>

"If there's an electromagnetic counterpart being sought, it's highly likely that we're not looking for a black hole merger, but something far more novel and exciting!"

Ethan Siegel, Newest LIGO Signal Raises A Huge Question: Do Merging Black Holes Emit Light? *Forbes*, June 8, 2017
<https://www.forbes.com/sites/startswithabang/2017/06/08/newest-ligo-signal-raises-a-huge-question-do-merging-black-holes-emit-light/>

"The AGILE satellite from the Italian Space Agency detected a weak, short-lived event [that occurred just half a second before the LIGO merger](#), while X-ray, radio and optical observations combined [to identify a strange afterglow less than 24 hours after the merger](#)."

"If either of these were connected to the black hole merger, it would be absolutely revolutionary. There is so little we presently know about black holes in general, much less merging black holes. (...). We've only just this year determined that [black holes don't have hard shells encircling the event horizon](#), and even that evidence is only statistical. So when it comes to the possibility that black holes might have an electromagnetic counterpart, it's important to keep an open mind, to look, and to go wherever the data takes us."

Ethan Siegel, Nothing Escapes From A Black Hole, And Now Astronomers Have Proof, *Forbes*, May 31, 2017
<https://www.forbes.com/sites/startswithabang/2017/05/31/nothing-escapes-from-a-black-hole-and-now-astronomers-have-proof/>

"If event horizons are **real** (emphasis mine – D.C.), swallowed stars wouldn't create a transient

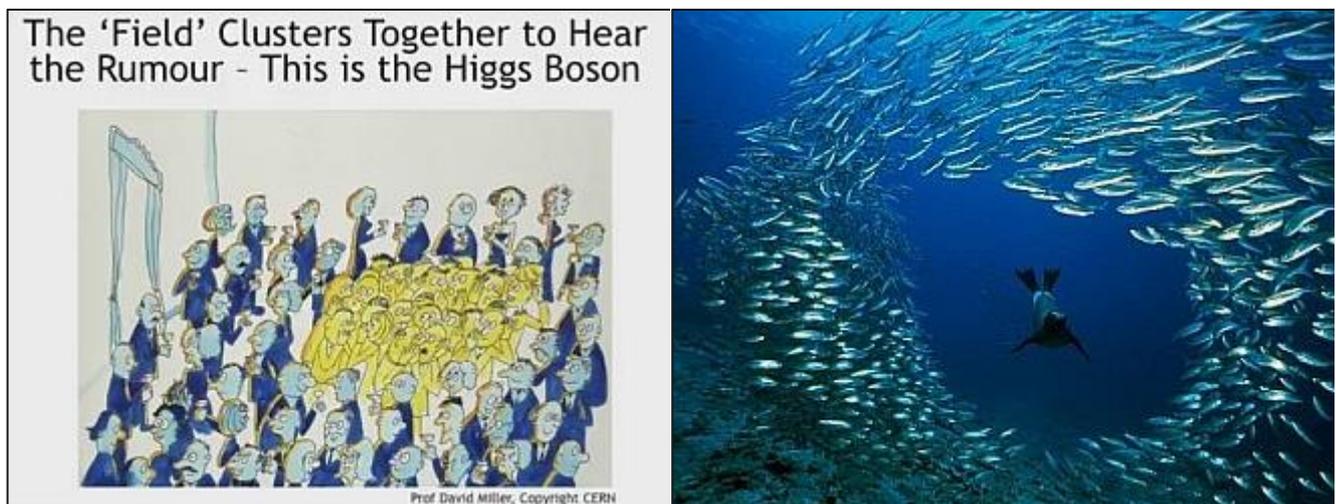
signal, but star colliding with a hard surface [would create a significant burst of light](#). (...) Of course, it's not really possible to prove that the event horizon is **real** (emphasis mine – D.C.), but this work allows some impressive constraints to be placed.”

NOTE

Read Ethan Siegel, August 23, 2017 [above](#): “... it's highly likely that we're not looking for a black hole merger, but something far more novel and exciting!”

Bingo! Instead of suggesting that stars may collide with some “hard surface” (Wenbin Lu *et al.*, [arXiv:1703.00023v1](#)), recall that (i) the alleged “event horizon” (Dieter Brill) is not “real”, simply because it can't, and (ii) in cosmological spacetime containing matter (“[vacuum spacetime](#)” is an oxymoron), **timelike** naked singularities (Rituparno Goswami *et al.*, [arXiv:gr-qc/0410041v1](#)) are just **unavoidable**. These two facts, combined with the counterfactual proposition that even one *timelike* naked singularity would have killed the entire universe (*reductio ad absurdum*), require brand new interpretation of **all** recorded bursts of light, which the astronomers at [LIGO and Virgo](#) are desperately trying to explain with “black holes” (Angelo Loinger, [arXiv:physics/0402088v1](#)). Of course I will be very happy to elaborate, with details (pp. **126-127** in [gravity.pdf](#)).

Thus, **all** observations of “[significant burst of light](#)” — including [EM170817](#) — require new theory of mass-energy release in astrophysics, as suggested by [Banesh Hoffmann in 1964](#), which opens the possibilities for [GRAD](#) and the evolution equation in cosmology (Sec. **3** in [CEN.pdf](#)): read Arthur Conan Doyle [above](#). If [GRAD](#) and the *wave-like* holomovement (see [above](#)) of fish (shown below) are produced by cognate qualities of biological and quantum-gravitational spacetime, leading to dynamic “[swathe](#)”, we could seek similar explanation of ‘quantum mass’ (see [above](#)) as well, including the so-called Higgs boson (David J. Miller below): think of proton's mass (Slide **10** in [Quantum Spacetime](#)) as **sustained** cluster of standing quantum-gravitational “waves”. This is completely uncharted territory, based on the [vacuum](#) as *Res potentia*. We don't know how to present mathematically the dimensionless “[amplitudes](#)” (**h**) of quantum-gravitational “waves” in their spacetime, in line with the proposed evolution equation in cosmology above. Read about the RS spacetime and the ‘[attractive](#)’-and-‘[repulsive](#)’ gravity in p. **77** and pp. **118-119** in [gravity.pdf](#).



David J. Miller, A quasi-political explanation of the [Higgs Boson](#)

A quasi-political explanation of gravity, Fig. 3 in [holon.pdf](#)

Needless to say, this is a *very* speculative Ansatz. Currently, it cannot be cast into precise quantitative theory, firstly because of the absence of mathematical formalism (p. **20** in [Hyperimaginary Numbers](#)). But at least it offers, in my humble opinion, a new approach to all phenomena in quantum-gravitational physics (and in life sciences), and also does not lead to obvious contradictions with firmly established and indisputable facts, in line with the principle of Arthur Conan Doyle [above](#).

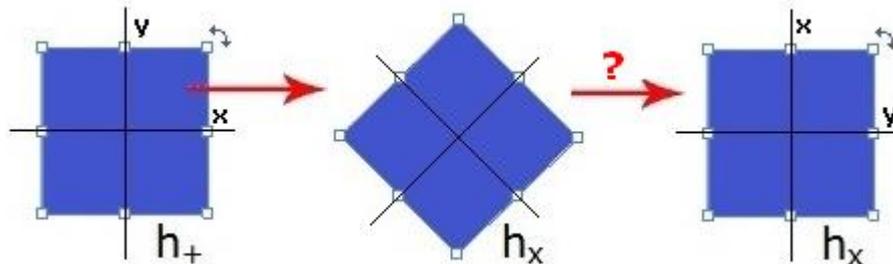
But do we have an alternative theory, presented with mathematical equations, so that we can make [precise calculations](#) and publish scientific articles in peer-reviewed academic journals, and some day get the [Nobel Prize](#)? Well, recall the **exact 45° angle** between two linearly independent polarization states h_+ and h_x , which are instructed by [Kip Thorne](#) to be in “superposition” along the **time** read with the clock of Rana Adhikari [above](#). Let me quote from p. 1 in [gw_miracles.pdf](#):

As explained by M. Vallisneri *et al.* in [3, p. 6], “the effect of each GW polarization is to contract fractionally the proper distance along one axis, while expanding it along the other (these axes being (x; y) for h_+ , and axes rotated by 45° with respect to (x; y) for h_x).” Look also in [4, p. 33]: “A generic gravitational wave can thus be understood as a superposition of two oscillating tidal fields that propagate at the vacuum speed of light.”

Q1: What phenomenon could possibly produce an **exact 45° angle** between h_+ and h_x and keep it **exactly fixed within** the “superposition” of two oscillating metric fields, in such way that the latter will *never* conflate and intermingle? What could sustain the *phases*?

The two linearly independent polarization states h_+ and h_x , each of which “has [its own gravitational-wave field](#)” [10], are “akin to “stereo sound” information” [4, p. 8], but the physical nature of such “superposition” of *metric* fields is totally unclear. It is certainly not like a superposition of two quantum states of the famous Schrödinger’s cat, live cat & dead cat. According to Freeman Dyson [2, p. 8], a generic GW “may be considered to be a *coherent* superposition of a large number of gravitons.” Here comes the second question.

Q2: How could these “gravitons” [10] be arranged to keep the **45° angle** between h_+ & h_x ? For if the angle reaches **90°**, the net effect from h_+ & h_x will be **zero**.



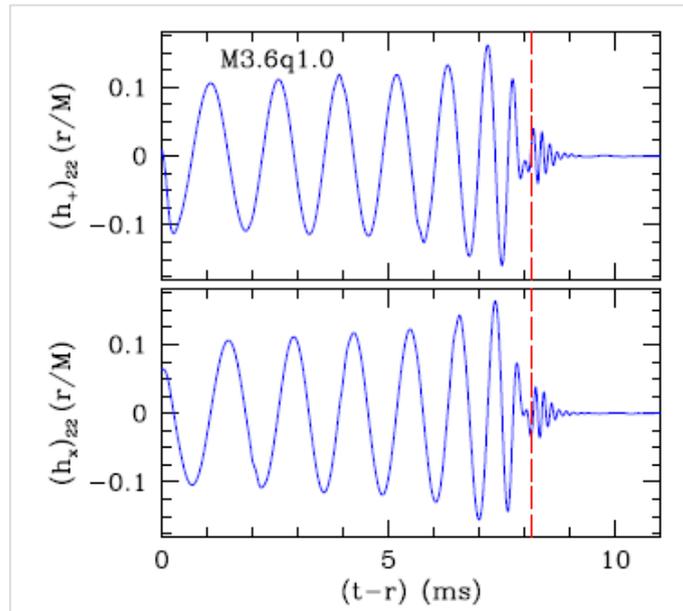
Why people like [Kip Thorne](#) suggest new topological structure of spacetime, only to facilitate “[propagation](#)” of metric “oscillations” at **45° angle**, with the [speed of light](#)? This is a [diagnose](#).

Still not convinced? Look at the [GW170817](#) propaganda below (link [here](#)): “When two orbiting neutron stars collide, they merge and form a black hole, releasing enormous amounts of energy in the process.”



How could this happen? Read Luciano Rezzolla *et al.*, 13 May 2010, [arXiv:1001.3074v2 \[gr-qc\]](https://arxiv.org/abs/1001.3074v2): "Figure 15 shows the waveforms in the two polarizations of the (dimensionless – D.C.) gravitational-wave amplitude $(h_+)_{22}$ (upper panels) and $(h_\times)_{22}$ (lower panels) for all the models considered and as computed from the gauge-invariant perturbations of a Schwarzschild spacetime."

In the first place, are we living in some [Schwarzschild vacuum](#) full of "gravitons" ([Kip Thorne](#))? What is the "true" (if any) speed of GWs ([Steven Carlip](#))? Anyway, see Rezzolla's Fig. 15:



Looks impressive, only LIGO and Virgo did not detect any black hole "ringdown" or "post-merger signal" in [GW170817](#). No jets, like those advertised by NASA [above](#), nor any neutrino candidates whatsoever "in the 14 day period after it": recall the quiz [above](#). Nobody knows what could be the *origin* of [EM170817](#). It was **not** caused by any "black hole" and all those GW "templates" showing some "black hole" after [binary neutron star merger](#) ([Kip Thorne](#), [9:15-9:20](#)) are **for the birds**.

All you can do is to wave your arms *rapidly* to produce "gravitons" ([Kip Torne](#)) and then use Advanced GW astronomy ([AGWA](#)) to fully understand your findings, after which you can publish your research articles, with tons of mathematical equations, in peer-reviewed academic journals, and some day you may get a **lot** of money. You just never know. Luciano Rezzolla, for example, got [14 million EUR](#) — taxpayers' money — for manufacturing an "accurate image of a [black hole](#)". In contrast, I work as [independent researcher](#) and don't accept donations. Never did never will.

Here people may ask, but what if "[GW170817](#)" was *somehow real*? This tantalizing question can be addressed only after we develop [GRAD](#) theory. If the answer turns out to be in the affirmative, it will be like the old joke about three men in a mental clinic, who had to pass the test 'how much is 2+2': read about it on p. **5** in [readme.pdf](#), available after extracting [chakalov.zip](#) (app. 18Mb) to your hard drive. Then the three [Nobel Prize laureates](#) will have to acknowledge in public that "*something unknown is doing we don't know what*" ([Arthur Eddington](#)) and quickly return their awards to the Royal Swedish Academy of Sciences. It will be great fun to watch it, but it can never happen. They already got the [cash](#) and will never acknowledge their [insoluble problems](#).

Finally, I wish to thank all astrophysicists supporting GW "astronomy" for their relentless efforts to explain [EM170817](#). I learned a lot from them, and I am still learning about 'things we know that we don't know' in [General Relativity](#), since 1972. Details in p. **9** in [Gravity-Matter Duality](#).

D. Chakalov
November 20, 2017
Last update: December 25, 2017, 12:30 GMT

CONCLUSION

Many people (I'm one of them) prefer to glance at the title and abstract of a paper, and then read it from bottom-up, starting from the last section, usually entitled 'conclusion'. So here's the title:

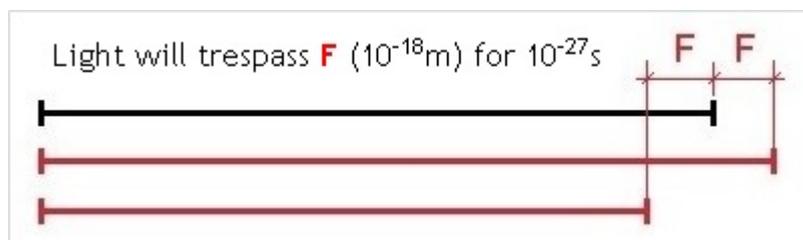
The 2017 Nobel Prize for physics was awarded to a **FRAUD**.

The abstract is below (p. [25](#)) and the conclusion is simple: we do not know the "short circuit" between gravity and matter (**NB above**). Therefore, all efforts to detect gravitational waves (GWs), after Russell Hulse and Joseph Taylor got the [1993 Nobel Prize](#) in physics for "a discovery that has opened up new possibilities for the study of gravitation", should have been focused on this [crucial issue](#). Yet the proponents of "GW astronomy" deliberately used the linearized approximation of GR ([MTW p. 968](#)) and bluntly ignored the lesson from Hermann Weyl¹:

At its present stage our theory (L) accounts for the force which an electromagnetic field exerts upon matter, but the gravitational field remains a powerless shadow. From the standpoint of Einstein's theory this is as it should be, because the gravitational force arises only when one continues the approximation beyond the linear stage. (...) Nobody will believe in the sufficiency of the linear theory (L). For, as we have said above, its gravitational field is a shadow without power.

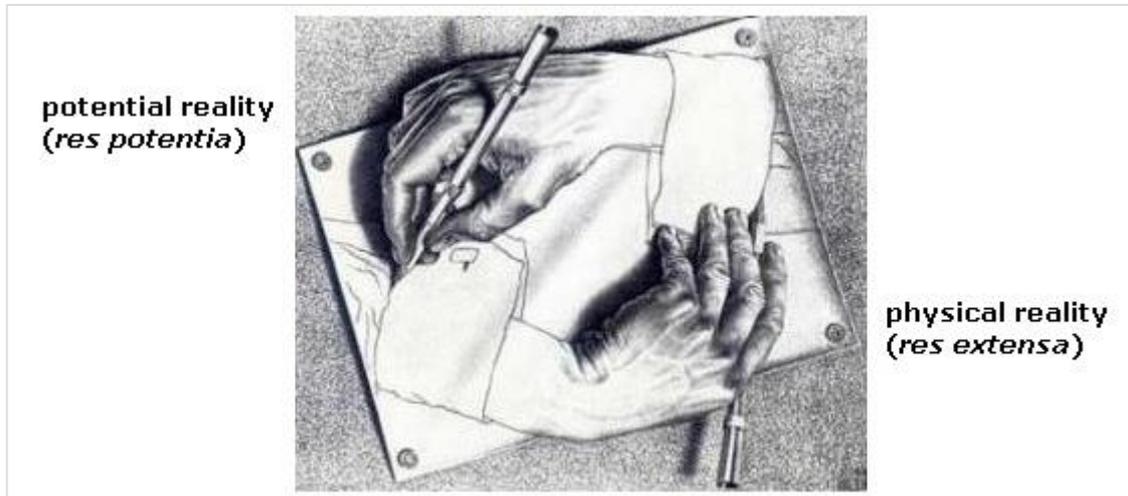
[GW150914](#) is scientifically [impossible](#), as *they* know since [August 2002](#), and can only be **FRAUD**. Even [Wikipedia](#) acknowledged that we don't know how the gravitational field "can do **work** on matter and **vice versa**" (emphasis mine – D.C.). People like Kip Thorne try to bypass the crucial issues of **work** done by gravity ([Piotr Chrusciel](#)) by referring to some 'pure geometry' trespassed by [laser beams](#), and then speculate about fractional shrinkage/inflation of the metric of spacetime ([Steven Carlip](#)). The unsolved problems of GWs and "black holes", definable on only 4% from the Universe, was raised in my email to *Nature* from [19 February 2003](#). Six days later, Steven Weinberg wrote (L. Grishchuk, [Sec. VI](#)): "I agree that much of what one reads in the literature is absurd. Often it is a result of bad writing, rather than bad physics. I often find that people who say silly things actually do correct calculations, but are careless in what they say about them."

It is indeed absurd to observe or measure changes of [bare](#) spacetime metric, just as it is absurd to measure changes of the *rate* of time itself ([Steven Carlip](#)). We can measure [time dilation](#) only *post factum*, and never at the *very instant* it happens. In GR, detecting effects of alleged "GW amplitude" is **not** "a matter of timing" ([Rana Adhikari](#)). Only in the *linearized* approximation of GR (read Hermann Weyl above) people would insert some "canvas" of [referential Minkowski spacetime](#), which they claim is FAPP (Sic!) correct (e.g., Kip Thorne, [16:44-17:22](#)), and speculate about "expansion" and "contraction" of [bare](#) metric due to some [trespassing GW](#), denoted with **F** in the drawing below (compare it with the plastic bottle at [t₂ below](#)).



We cannot see the two **red** regions of spacetime, "expanded" and "contracted" — only the **fixed black** one on top. If you have **wrongly** installed a fixed [canvas of Minkowski spacetime](#), you will **wrongly** suggest that "it's a matter of timing" ([Rana Adhikari](#)) to detect the **bare** ([MTW p. 396](#)) **red** regions of spacetime, trespassed by laser beam with "speed" of light **c**: it will take *more* time to cover [bare](#) "expanded" spacetime region and *less* time to cover [bare](#) "contracted" spacetime region. But with respect to *what*? There is no [absolute canvas](#) in GR. The *linearized* approximation is **killing** the very effect you wish to measure ([Jose Pereira](#)). It is **totally** wiped out *from the outset*. Have you seen [pink unicorns dancing with red herrings](#)? Physical bodies do **not** [pulsate](#)".

Albert Einstein was fully aware of the problem with the “short circuit” between gravity and matter (**NB above**), and was trying until his last days to discover the so-called *Gesamtfeld* ([total field](#)). The task is highly non-trivial: on the one hand, gravity is **not** physical field, but on the other — gravity should **act** on matter and at *the same instant* (Sic!) matter should act **back** on gravity, as depicted in Escher’s drawing hands.



The nonlinearity in gravity \Leftrightarrow matter relations is profoundly different from nonlinear interactions equipped with fixed referential background spacetime (say, if you row a boat in a narrow and shallow water canal, you will influence the water as well). If we denote the gravitational *res potentia* ([John](#)) with **A** and the non-gravitating matter (*res extensa*) with **B**, the latter **cannot** acquire ‘gravity’ from **A** along time parameterized with a line (1D Euclidean space): which goes first, **A** or **B**? Suppose **A** determines **B**: **A** must have *definite* state to determine the *next* state of **B**, which means that **B** has *already* determined **A**. If **B** determines **A**, then **B** must have *definite* state to determine the *next* state of **A**, which means that **A** has *already* determined **B**. Hence neither **A** (gravity) nor **B** (matter) can make the first step, and gravity \Leftrightarrow matter relations are dead frozen into **one** instant only ([George F R Ellis, Fig. 4](#)), along Rovelli’s [non-metric “time”](#).

The only way to understand the gravity \Leftrightarrow matter relations is with [gravity-matter duality](#). The detector of **gravitational radiation** ([GRAD](#)) must be endowed with *self-acting* faculty, just like the human brain — it acts *on itself* by negotiating (see Escher’s drawing hands [above](#)) its future state with its own *potential* states. Gravity as such does **not** exist, as it originates from the [potential states of matter and fields](#) and hence can be *physicalized* with **any** physical stuff that is the “source” of gravity. It is not physical field either — the “gravitating” matter interacts with **itself**, *via* its potential “gravitational” state (called [John](#)), and the effects of this **self-interaction** are resubmitted to the right-hand side of Einstein’s field equations, leading to [GRAD](#) and [energy nonconservation](#). What we call “gravity” and “quantum state” originate from **self-acting** matter.

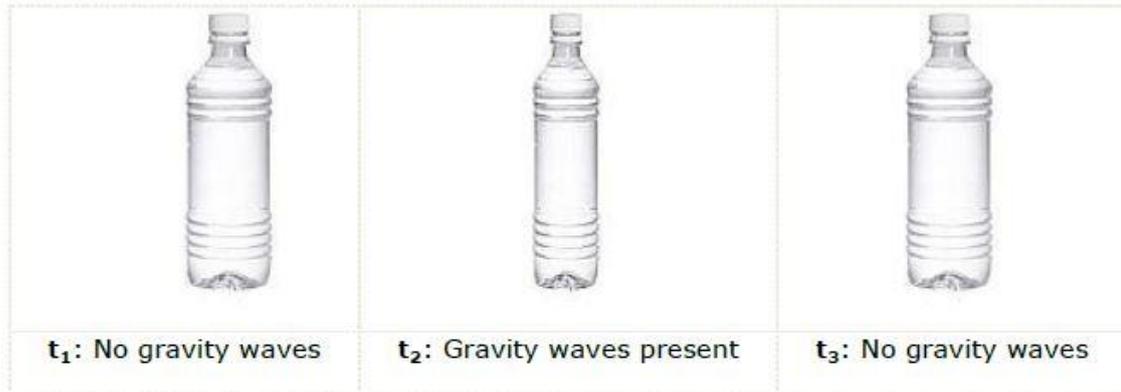
If [Kip Thorne](#) (MTW [p. 968](#)) tells you that he has detected GWs, [don’t buy it](#). Nobody can detect the gravitational *potential* reality *itself*, because **it** does not live *anywhere* in the [light cone](#). It is “just in the middle between possibility and reality” ([Werner Heisenberg](#)). More in pp. **21-22** in [Hyperimaginary Numbers](#) and in my note [above](#).

D. Chakalov
December 3, 2017
Last update: December 30, 2017, 12:28 GMT

1. Hermann Weyl, How Far Can One Get With a Linear Field Theory of Gravitation in Flat Space-Time? *Amer. J. Math.* **66**(4), 591-604 (October 1944). Available at [this http URL](#).

HOW TO REFUTE THE CONCLUSION?

If the reader believes that the conclusion [above](#) can be refuted, may I suggest to explain the non-linear ([Jose Pereira](#)) transport of energy by the gravitational "field" ([Piotr Chrusciel](#)), producing stresses¹ in an empty plastic bottle (drawing below). Here the plastic bottle at t_2 has changed its (i) shape due to the "propagation" of metric "oscillations" (see example [above](#)), and (ii) energy due to the influx of GW's energy from [GW170817](#), relative to the referential or "background" states of 'shape & energy' of the bottle at t_1 and t_3 . Again, (i) and (ii) are inseparable bundle.



According to LIGO, GWs emitted from [GW170817](#) had *dimensionless amplitude* 10^{-22} — try to explain the coupling of their wave strain to the plastic material of the bottle, leading to stresses¹. How GWs produce **work** to induce stresses¹ and to *squeeze* the bottle at t_2 ? At 10^{-22} maybe?

Would you endorse coupling of the spacetime metric to phase differences ([Rana Adhikari](#)), as Rainer Weiss² proposed in 1972? Differential geometry alone *cannot* act on matter — geometry is not a [ghost](#). Read again [Albert Einstein](#) and **NB** [above](#). Once we eliminate 'the impossible' — gravity is neither physical field nor pure geometry — the only explanation is with [potential reality](#). Thus, I propose that the *origin* of gravity can be revealed by **reproducing** all effects of gravity (p. **3** in [holon.pdf](#)), including **rotation**, with tweaking the Platonic *matrix* of rods and clocks³. The first off task in [GRAD](#) is to understand the *topology* of spacetime, which should also be [dynamical](#).

If you are not familiar with the problem of [gravitational waves](#), keep in mind that [the linearized approximation](#) of General Relativity ([Jose Pereira](#)) has very limited applications. It has been used, for example, to adjust the [GPS navigation](#), but we can observe the plastic bottle only at t_2 : the **work** produced by the gravitational "field" ([Piotr Chrusciel](#)) on the plastic bottle (Earth) at t_2 , which alters its "curvature" *and* induces [energy nonconservation](#), cannot be detected "online" at t_2 and compared to the "background" values at t_1 and t_3 , as I tried to explain to [Steven Carlip](#). Bottom line is that the current formulation of GR cannot explain **gravitational radiation** ([GRAD](#)). People can only speculate that "change in the distance due to GWs between atoms in the bottle will cause stresses as atoms have electromagnetic interaction between them" (Patrick Das Gupta, email from 9 April 2016). Well, [GRAD](#) should be detectable in principle¹, but nobody can write it down: there is no *gravitational* stress-energy tensor ([Erik Curiel](#)) in the current version of GR. If Patrick Das Gupta could find such animal, he will convert gravity to electromagnetic field — read about ordering a pizza in [Gravity-Matter Duality](#). Let me explain in most simple terms.

Russell Hulse and Joseph Taylor got the 1993 Nobel Prize (p. **19**) under the presumption about some "conservation law", which is dead **false** ([Hermann Bondi](#)). To explain the meaning of 'conservation' (p. **3** in [CEN.pdf](#)), suppose you have €1000 in your bank account, and decide to withdraw €80 from it. You go to some cash machine on the street, insert your debit card, dial your password, and get your €80: the total amount of your €1000 remains conserved; you just have €80 less in your bank account, matching *the same* €80 in your wallet. All your money in your wallet and those in the bank are *physical* stuff. But with gravitational "money", you cannot have any conservation law **whatsoever**: you will convert gravity to some *physical* field and then will have to explain how the gravitational field "can do **work** on matter and **vice versa**" (see Wikipedia [above](#)). You may try to 'sweep the garbage under the rug' with those twice contracted Bianchi identities ([Wolfram](#)) and speculate about some "conservation law" viz. suggest some

“geodesic hypothesis” (Hans Ohanian), but at the expense of being confined exclusively to the linearized approximation of GR — read Hermann Weyl [above](#) — and then can *never* detect GWs. If you nevertheless insist on “GW150914” and pretend to have resolved the problem of energy transport by GWs by “late 1950's”, you **must** explain the “miracles” with “GW amplitude” and the “conversion” (if any) of “GW energy” (if any) to 5.3×10^{47} joules — “the most powerful explosion humans have ever detected except for the big bang” (Kip Thorne)⁴, which was nevertheless **totally silent**. Besides, you **cannot** calculate any effect from “GW150914” at distance one AU from it⁴, because with current GR you cannot *in principle* describe **strong** GWs: read Michele Maggiore. No, we do not accept **GW parapsychology**. It is [total crap](#) backed by Nobel Prize.

NB: Most importantly, GW parapsychology (also known as “GW astronomy”) is based on the fundamental assumption that spacetime *itself* — “its own rods and clocks”³ — can “expand” and “contract” as **physical** (Sic!) phenomenon, and therefore the ‘factor **F**’ [above](#) can be measured. **False**. We can observe and measure only the physical counterparts (e.g., stresses¹) of the ideal Platonic rods and clocks³, and these physical counterparts pertain *exclusively* to the right-hand side of Einstein’s field equations. GRAD is **incompatible** with GW parapsychology — read [below](#). It is **absurd** to measure the “expansion” of spacetime **itself**³, parameterized along the **unphysical** radius of the “expanding balloon” (Fig. 4 in [Gravity-Matter Duality](#)). We can only measure a local value of dimensionless “scale factor” by glancing at our watch, and acknowledge “the worst theoretical prediction in the history of physics”. We can’t look at the “expanding balloon” *en bloc* to determine which part of spacetime is “expanding” and **when**, as in GW parapsychology [above](#).

Again, gravity is neither physical field nor [pure geometry](#), but we are miles away from a rigorous formulation of GRAD, manifested by delocalized wave-like “swathe” of metric perturbations, as suggested [above](#). Can we detect [monopole radiation](#) and spin-0 GRAD as *physicalized* mass-energy **nonconservation**? Are such purported demonstrations **fake or real**? We don’t know (yet).

In summary, I will zoom on **two** assumptions at the foundation of “GW astronomy”, which concern the *topology* of spacetime. In my opinion, they are **utterly idiotic** (pardon my French).

If the readers of these lines can make *any* sense of them, perhaps they could say something like ‘well, the theory may not be perfectly clear, but if we invest additional 3-4 billion Euros, perhaps one day something interesting will show up.’ I will first refer to the so-called [Einstein Telescope](#) and will quote from their official press release (probably from 26 September 2017) posted at [this http URL](#):

The three-detector observation was made on August 14, 2017 at 10:30:43 UTC. The detected gravitational waves – ripples in space and time – were emitted during the final moments of the merger of two black holes with masses about 31 and 25 times the mass of the Sun and located about 1.8 billion light-years away. The newly produced spinning black hole has about 53 times the mass of our Sun. This means that about 3 solar masses were converted into gravitational-wave energy during the coalescence.

My comments on the so-called GW170814 ([arXiv:1709.09660 \[gr-qc\]](#), 27 September 2017) can be read at pp. **123-125** in [gravity.pdf](#). Study the **facts** very carefully. GW170814 is crap, yes.

Yet the so-called [Einstein Telescope](#) is generously supported by the European Commission under the Framework Programme 7 (FP7), as stated at [Wikipedia](#). It is related to the [GraWIToN project](#), funded also by the European Commission under the Marie Curie Actions, which “aims to train 14 young researchers (PhD students) in the gravitational wave (GW) search field”. Which means that at least 14 young researchers will be fed with disinformation and **blatant lies**. Moreover, we all, as EU taxpayers, will again have to pay for the delusions of some privileged “academic scholars” with some very close connections to the European Commission. **No way**. [Enough is enough](#).

Now, the first **idiotic** assumption about the *topology* of spacetime was explained on [p. 6](#), [p. 7](#), and [p. 17](#). If it makes *any* sense to you, go ahead and pay for it. I totally refuse to do it.

The second **idiotic** assumption about the *topology* of spacetime is the “teleological” event horizon ([Dieter Brill](#)), which ensures that the “causal curves can cross the null hypersurface in only one

sense (outside to inside) — [that is what makes black hole black](#).” For if you **cannot** explain what you mean by “black holes” cooked in some [Schwarzschild vacuum](#) (read [Robert Geroch](#)) full of “[gravitons](#)”, you may not enjoy “GW astronomy”, and all your GW “templates”, showing some “[black hole](#)” emitting GWs (Kip Thorne, [9:15-9:20](#)), are **for the birds**. Don’t miss the so-called ‘weak cosmic censorship hypothesis’ ([Wikipedia](#)) and the [Penrose-Norris Diagram](#) showing “black holes” ([Wikipedia](#)): the spatial and temporal topological dimensions may “[flip over](#)”, in the sense that time becomes space-like coordinates, while space becomes a time-like coordinate. Clifford Will (pupil of Kip Thorne) did not mention this mathematical jabberwocky during his talk with Annalie Schutz (20 May 2009, [5:51-6:24](#)). Are these people just [plain stupid](#)? **Not at all**.

I totally refuse to give *any* portion of [my EU taxes for such crap](#). Many “experts” at European Space Agency (ESA), with *very* close connections to the European Commission, already wasted “[450 million euros](#) from ESA’s budget, plus a substantial increment coming from the national science laboratories and space agencies providing their own contributions.” **450 million EUR** — for **what**? Just for the ‘proof of concept’ with [LISA Pathfinder](#). By the same token, your *rapidly* waving hands will provide the proof of concept for spin-2 “[gravitons](#)”, as explained eloquently by Nobel Prize laureate [Kip Thorne](#). You will only “prove” the feasibility of producing “[gravitons](#)”, and **nothing** more. But this ‘proof of concept’ is *absolutely* needed for “GW astronomy”, because you **must** explain “the most powerful explosion humans have ever detected except for the big bang” ([Kip Thorne](#))⁴, estimated at around 5.3×10^{47} joules. Otherwise the European Commission will not give you **money**. I mean *our* money taken from *our* taxes without *our* knowledge. I cannot find even the names of those “experts” of the European Commission, who have approved **BILLIONS** of Euros — *our* money taken from *our* taxes — for [LISA L3 Mission](#). Yes, I am mad as hell. It’s a **scam**. The insoluble problems of “GW astronomy” are widely known at least since [August 2002](#).

Who are the “experts” at EU [Horizon 2020](#), who have approved [LISA L3 Mission](#) on [20 June 2017](#)? Do they read English?

My objections to EU-funded [Einstein Telescope](#) and [LISA](#) and can be downloaded [here](#). Worst of all, on [June 20, 2017](#) the so-called [LISA](#) has become “one of the main research missions of ESA” ([Wikipedia](#)), and by 2030s it will waste **BILLIONS** of Euros, all taxpayers’ money. I totally refuse to pay *any* taxes to EU, until they sort out the **scam** with “GW astronomy”. Not a cent. **Zilch**.

D. Chakalov
December 3, 2017
Last update: December 19, 2017, 09:42 GMT

1. Robert M. Wald, *Space, Time, and Gravity*, University of Chicago Press, 1992, p. 120; excerpt available at [this http URL](#).
2. Emanuele Berti, Viewpoint: The First Sounds of Merging Black Holes, [arXiv:1602.04476](#), p. 3.
3. “Spacetime has its own rods and clocks built into itself”, [MTW p. 396](#).
4. The energy release from GW150914 is estimated at 5.3×10^{47} joules – “a level greater than the combined power of all light radiated by all the stars in the observable universe” ([Wikipedia](#)) – yet “the effects of the gravitational waves on a human located only one [AU](#) from the merger event would have been minor and survivable” (*ibid.*). As the “experts” at [LIGO](#) and [Virgo](#) explained, in “classical general relativity, a *vacuum* BBH merger does not produce any EM or particle emission whatsoever”, [arXiv:1602.08492v4](#), p. **9**). This is *bona fide* GW parapsychology: you’re invited to believe in some mystic “energy” emitted from “the most powerful explosion humans have ever detected except for the big bang” ([Kip Thorne](#)), which nevertheless “would have been minor and survivable”, because it is just harmless “gravitons”: wave your arms “rapidly” ([Kip Thorne](#)) and you will produce tons of spin-2 “gravitons” as well. EU-funded [Horizon 2020](#) will spend **BILLIONS** of Euros — *our* money taken from *our* taxes — on [GW parapsychology](#). You can only wave your arms “rapidly” ([Kip Thorne](#)), like a Hummingbird, go to work, pay your taxes, and be happy. There is no sense to ask questions, because these guys and their comrades in Brussels are **too big to fail**. Or are they?

FOR THE RECORD

It is impossible to measure spacetime geometry itself (MTW p. 396), as if you look at some expanding balloon: read **NB above** and Hermann Weyl [above](#). Physical bodies do not "pulsate" like vibrating membrane in a loudspeaker: read [above](#). There is no topological structure of spacetime to facilitate [propagation of GWs](#), nor some "spin-2 gravitons" (Kip Thorne) "dispersed in vacuum like massive particles" (reference [above](#)). If the alleged GW150914 were "the most powerful explosion humans have ever detected except for the big bang" (Kip Thorne), estimated at around 5.3×10^{47} joules, yet it did not produce any **work** on [matter and fields](#), you're talking [GW parapsychology](#). We don't accept "waving ghosts", even if they are backed by Nobel Prize. Physical bodies do **not** "pulsate" from [GW ghosts](#). The list goes on and on. Wake up [sheeple!](#) Gravity is not 'pure geometry' (Reiner Weiss, 10 May 2012, p. **129** in [gravity.pdf](#); MTW p. 396), like the grin of the Cheshire cat without the cat — read about gravity-matter duality [above](#).

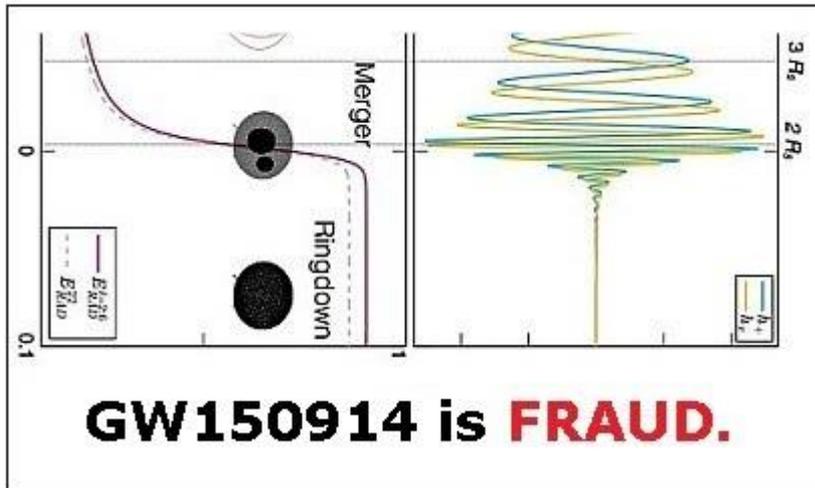
To get a glimpse of **Relative Scale** (RS) spacetime, read about *Res potentia* in pp. **21-22** in [Hyperimaginary Numbers](#) and the proposal for [attractive](#) and [repulsive](#) gravity in p. **77** and pp. **118-119** in [gravity.pdf](#). According to RS spacetime, there is no metric of the 'atom of Geometry', dubbed 'geometric point', and the Archimedean topology (ref. [31] in [Hyperimaginary Numbers](#)) is **not** applicable to it. It doesn't matter if we add or remove *any* "number" of geometric points from a line segment — we can never *alter* its "size" (Kurt Gödel). If the geometric point were endowed with metric, it will be like the smallest pixel in digital image, and we could recover any finite region of spacetime from such "pixel", for example, 1.6×10^{-35} (Planck length) $\times 1.6 \times 10^{35} = 1$. Corollary: the alleged "stretching" and "contracting" of spacetime, postulated in "GW astronomy" [above](#), is **false**. There is no such thing as "more" or "less" spacetime due to some 'factor **F**' — read my comment to [Steven Carlip](#). Stated differently, the underlying ideas in "GW astronomy" [above](#) and in RS spacetime are **incompatible**. The "oscillations" of LIGO's arms *must* be physically **real** in order to be measured, which necessarily requires to be **relational**, that is, the proponents of "GW astronomy" tacitly refer to some [background spacetime](#) with respect to which the "stretching" and "contracting" of spacetime are definable *in principle* (Rana Adhikari). **False**, according to RS spacetime — the "expansion" of spacetime *itself* is **unobservable**, because it would require 'absolute space' (Michal Chodorowski) presented with the radius of "expanding balloon": see Fig. **4** in [Gravity-Matter Duality](#). The great Edwin Hubble never accepted the interpretation of his [discovery](#) as "expansion" of space, and I don't accept "the discovery of the accelerating expansion of the Universe" (Nobel Prize 2011) either. The battle with the established GR "experts" will be [severe](#) — I am independent researcher (p. **6** in [holon.pdf](#)) and don't have "friends" who would stop me. If EDCC (see below) does not assist me in finding the answers to my questions, I will go public and hit those GR "experts" *much* harder. I have nothing to lose. Nothing.

In response to my email messages (transcript [here](#)), the Europe Direct Contact Centre (EDCC) assigned numbers 101000246281 (7 Dec 2017 17:00), 101000246526 (8 Dec 2017 13:50), 101000247378 (11 Dec 2017 22:40), and 101000248070 (13 Dec 2017 15:50). The latest one was communicated to [all members of LISA team](#). If EDCC does not assist me by Christmas 2017, I will consider them complicit in the **FRAUD** dubbed "GW astronomy", and will take further actions. Nobody can argue with **facts** (p. **19**). Nobody is [too big to fail](#). The scandal with [LISA](#) and the entire "GW astronomy" will be **enormous**, and will have vast ramifications.

On [14 September 2016](#), President of the European Commission Jean-Claude Juncker used his annual speech to admit Europe was at a crisis point. "Do we want to let our Union unravel before our eyes?" he asked parliament. "Or do we say: Is this not the time to pull ourselves together?" But how could we "pull ourselves together" if we cannot even ask questions about EU Commission wasting **BILLIONS** of Euros — *our* money taken from *our* taxes without *our* knowledge? What is going on with our Union?

D. Chakalov
 December 13, 2017
 Last update: December 30, 2017, 11:38 GMT

(click the image and follow the links below)



According to the proponents of [GW astronomy](#), the wave pattern (shown above) of binary black hole (BBH) merger dubbed [GW150914 1:1](#) matches the wave pattern of *very strong* GWs at the immediate vicinity of *the same* BBH merger over *one billion* years ago, because the latter was absolutely not altered due to [non-linear interactions](#) of *very strong* GWs with matter and fields in the cosmos for over one billion years, before being detected by LIGO on [14 September 2015](#). **No.** We do not accept “[ghosts](#)” that would “[act](#)” without being [acted upon](#) for over *one billion* years, even if they are backed by [Nobel Prize](#):

The 2017 Nobel Prize for physics was awarded to a **FRAUD**.

D. Chakalov¹
chakalov.net

Abstract

After a brief recall of the widely known, and still [unsolved problems](#) of the coupling of [gravity to matter](#) and the **non-linear** transport of [mass-energy](#) (equivalent to “[200 solar masses per second](#)”) by gravitational waves (GWs), it is concluded (p. 19) that the alleged “detection” of GWs and black holes on 14 September 2015, dubbed [GW150914](#), is impossible, and therefore is **FRAUD**. I also provide various conditions under which the conclusion can be proven false and refuted. For example, regarding the origin of [GW energy](#), if the so-called “mixed procedure” ([Jose Pereira](#)) can be derived from non-linear GW effects ([MTW p. 968](#)) due to arbitrary GW amplitude ([Michele Maggiore](#)) inducing stresses in matter ([Robert Wald](#)), say, in a plastic bottle (p. 21) at distance [1 AU](#) from [GW150914](#), the conclusion by Hermann Weyl on the linearized approximation of GR (p. 19) will be refuted. Then **all** projects in [GW astronomy](#), including Laser Interferometer Space Antenna ([LISA](#)), will be duly [vindicated](#), and I’ll eat my hat.

Published in [viXra:1712.0017](#), 25 pages, 2017-12-30 12:45:17 GMT

December 30, 2017, 19:32 GMT

¹ Email: dchakalov@gmail.com. No permanent address. Download the latest version ([FRAUD.pdf](#)) from [this http URL](#).

Subject: Re: [arXiv:1801.09503v1](https://arxiv.org/abs/1801.09503v1), Eq. 27: "The Hamiltonian approach *tames this ambiguity*."

Date: Thu, 8 Feb 2018 11:50:28 +0000

Message-ID: <CAM7Ekxk5aD_wu8SBwzM9tcEY5phH0bGeZ7EAGzQVLEJRann2_A@mail.gmail.com>

From: Dimi Chakalov <dchakalov@gmail.com>

To: Jim <nester@phy.ncu.edu.tw>

Dear Jim:

Thank you for your prompt reply.

> There is no unique choice, but the "ambiguity" is completely under
> physical control, corresponding to the choice of boundary conditions.

Let me again offer an analogy to your situation, following the "ambiguity" mentioned on p. 21 in 'Hyperimaginary Numbers' in my preceding email (link below): either 'on' or 'off', like Schrödinger's cat.

> Of course not all boundary condition choices are equally as
> good; can one make a good case that a certain one is "best"?

You hit the nail on the head: if boundary condition choices can be *derived* from 'something else', then you might expect to *derive* one single boundary condition that is 'unique' (Sic!) and is therefore 'the best'.

Alternatively, if you cannot find the crucial 'something else', you will have to resort to the "logic" of anthropic principle and suggest "the best" boundary condition like people suggest the energy conditions - they have to be the way they are postulated by hand, or else matter and spacetime could not exist.

> I am hoping to succeed in doing that.

Please keep me informed. Your project is immensely important. If you succeed and derive 'the unique boundary condition', it will be also the best one, and I will immediately cancel my lecture on 21 September 2018, as announced yesterday on p. 26 in http://www.god-does-not-play-dice.net/hi_numbers.pdf

You can save me a *lot* of work and adrenaline. Hope you can make it.

Best regards,

Dimi

> On Thu, Feb 1, 2018 at 6:22 PM, Dimi Chakalov <dchakalov@gmail.com> wrote:

>>

>> Dear Jim,

>>

>> It is a pleasure to read your paper. Thank you. I will study it very
>> carefully.

>>

>> Would you say that Hamiltonian approach can solve, not just "tame",
>> this generic ambiguity? See another generic ambiguity and my proposed
>> solution on p. 21 in 'Hyperimaginary Numbers' at
>> <http://vixra.org/abs/1611.0084>

>>

>> Best - Dimi

>> --

>> D. Chakalov

>> chakalov.net

Subject: Re: Request for paper
Date: Fri, 9 Feb 2018 00:41:46 +0000
Message-ID: <CAM7EkxnjOvEQjFi4N_JT_R0Qd+hfgk_zxWcnsRpgZhyjxokDjA@mail.gmail.com>
From: Dimi Chakalov <dchakalov@gmail.com>
To: Xiao Zhang <xzhang@amss.ac.cn>, Xiaoning Wu <wuxn@amss.ac.cn>
Cc: Jim <nester@phy.ncu.edu.tw>

Dear Xiao,

Thank you very much for your paper 'Energy-Momentum in General Relativity', co-authored with Dr Xiaoning Wu. Perhaps you may recall my first email to you from 25 September 2006, regarding your 'The Positive Mass Theorem near null infinity', math.DG/0604154v2. The main puzzles are still terribly unclear to me. May I ask a few questions, please.

In your latest paper, you and Xiaoning Wu wrote (p. 4): "This fact implies that one need some "additional structure" to introduce the conserved quantities for gravity." Apart from Killing vector and pseudotensor, is there any new "additional structure"? In my opinion, the very notion of 'conserved quantities for gravity' is an oxymoron. I will be happy to give you [reference to my papers](#) explaining my opinion. But of course I could be wrong and you can suggest some brand new "additional structure".

Secondly, I personally was never able to understand the positivity mass conjecture, as it requires *isolated* gravitating systems – also an oxymoron IMHO. Your and Xiaoning Wu wrote (Sec. 1.3 Positivity of the total energy): "It was conjectured that the total energy is nonnegative both at spatial infinity and at null infinity for isolated physical systems satisfying the dominant energy condition."

How would you define the union of 'spatial infinity & null infinity' in the first place? Please see Helmut Friedrich, http://www.god-does-not-play-dice.net/Helmut_1709.07709v1.jpg

Also, any time I read "near null infinity", "conformal compactification" and "conformal boundary", I recall the poetic essay by Roger Penrose from January 1963. I wrote quite a lot about it and will be happy to give you [the link to my paper](#), if you're interested.

Please don't take all this as criticism -- I am squared dilettante, compared to you and your colleagues, and I only wish to understand what is the origin of gravity, nothing more.

Best regards,

Dimi

On Thu, Feb 8, 2018 at 10:51 PM, Xiao Zhang <xzhang@amss.ac.cn> wrote:
[snip]

Subject: Re: Request for paper
Date: Fri, 9 Feb 2018 13:35:11 +0000
Message-ID: <CAM7Ekxn2eiBBDfZYNuxo+iYDVbH8+Py6hDqPFpwFTVwqCNY39w@mail.gmail.com>
From: Dimi Chakalov <dchakalov@gmail.com>
To: Xiao Zhang <xzhang@amss.ac.cn>
Cc: xiaoning wu <wuxn@amss.ac.cn>, jim <nester@phy.ncu.edu.tw>

Dear Xiao,

Thank you very much for your prompt reply.

> As for the first question, mathematically, we can add in different "additional structures",
> but they should provide the same total energy, the total linear momentum as well as
> other physical quantities if these additional structures are alright. This is simply because
> that the physical quantities should be unique. So, in some sense, all of them should be
> equivalent to Killing vector and pseudotensor. This is the reason we verified Duan's
> energy-momentum is the same as ADM energy-momentum.

I'm afraid this doesn't solve my problem. As I said before, the very notion of 'conserved quantities for gravity' is an oxymoron. Here's why.

Replace 'gravity' with pizza, and think about ordering pizza from a restaurant near you. It is delivered at your doorstep, and then you bring it in your kitchen, as a contribution to your lunch. The pizza you have now in your kitchen and the pizza cooked in the restaurant are *identical*, so if you think of gravity as a pizza, you must conclude that the contribution of gravity to your lunch (placed in the right-hand side of Einstein's field equations) is *exactly* the same 'pizza' that was cooked in the restaurant and delivered at your doorstep earlier. If true, gravity will be bona fide physical field, because it will be placed solely in the right-hand side of Einstein's field equations, and the total mass-energy of the joint system 'the pizza shop & your house' will be conserved.

So the price to pay for even thinking about 'conserved quantities for gravity' is the "materialization" of gravity. This is the main reason for "materialization" of gravity in Soviet school (e.g., Anatol Logunov), and it is based on their Marxist-Leninist garbage, which they call "philosophy". I know it very well, because I started studying GR in January 1972 (age 19), and all textbooks were in Russian or translated from Russian. It is indeed garbage. But the problem remains, and it is particularly acute in cosmology:

Matt Visser, Carlos Barcelo, Energy conditions and their cosmological implications,
<https://arxiv.org/abs/gr-qc/0001099v1>

Watch also how Paul Steinhardt explains energy (non)conservation:
<https://www.youtube.com/watch?v=tjmNW3mlisE>

More from Hans Ohanian,
http://www.god-does-not-play-dice.net/non_conservation.jpg

> As for the second question, one can use the initial data sets to define spatial infinity
> and "near" null infinity for isolated systems when the cosmological constant is zero.
> In the Minkowski spacetime, it goes to spatial infinity on spacelike slice $t=\text{constant}$,
> and goes to null infinity ($t=r$) on spacelike slice $t=\sqrt{1+r^2}$ as r goes to infinity.
> So asymptotically flat initial data sets (M, g, h) can define spatial infinity, and
> asymptotically null initial data sets, where g, h are asymptotically to the standard
> hyperbolic metric can define **near** null infinity.

Please correct me if I am wrong: you have to install GW mirrors *exactly* at null-and-spacelike infinity, correct? These mirrors are needed for GWs and Bondi news, to contain matter & gravity in "gravitationally closed system".

> One needs additional structure in order to define null infinity: either Bondi-Sachs' coordinates or Penrose's conformal compactification. But both existences are mathematically open.

To me 'open' means unclear. Regarding Penrose's conformal recipe, the *physical* spacetime either reaches 'omega' or not. Either way, you cannot install GW mirrors there (please see above).

> I am glad if you can send me your papers about "the poetic essay by Roger Penrose".

Please see 'Penrose-Norris Diagram' (2017-06-21) at <http://vixra.org/abs/1705.0219>

I suggest a new version of Finite Infinity (nothing to do with the one from George F R Ellis) with two ontologically different presentations of 'infinity' (p. 6 therein), so that we can have our cake and eat it :-)

All the best,

Dimi

>> -----原始邮件-----

>> 发件人: "Dimi Chakalov" <dchakalov@gmail.com>

>> 发送时间: 2018-02-09 08:41:46 (星期五)

>> 收件人: "Xiao Zhang" <xzhang@amss.ac.cn>, "Xiaoning Wu" <wuxn@amss.ac.cn>

>> 抄送: Jim <nester@phy.ncu.edu.tw>

>> 主题: Re: Request for paper

>>

>> Dear Xiao,

>>

>> Thank you very much for your paper 'Energy-Momentum in General Relativity', co-authored with Dr Xiaoning Wu. Perhaps you may recall my first email to you from 25 September 2006, regarding your 'The Positive Mass Theorem near null infinity', math.DG/0604154v2. The main puzzles are still terribly unclear to me. May I ask a few questions, please.

[[snip](#)]

NOTE

There are no 'conserved quantities for gravity' (read [above](#)), nor [isolated](#) gravitational systems ([Jürgen Ehlers](#)) — “the dynamical data do not explicitly include a time variable” (Karel Kuchar, [Sec. 16](#); see also [Carlo Rovelli](#)). There are no right answers to wrong questions (MTW, [p. 467](#)). The solution: [Finite Infinity](#) and [Gravity-Matter Duality](#). To understand the Platonic, not-yet-physicalized *proto*-pizza in the story [above](#), recall John Wheeler (see also p. 60 above) and the game of [Twenty Questions](#) (John and Marry Gribbin, *In Search of Schrödinger's Cat*, 1985, [p. 209](#)):

There had been a plot not to agree on an object to be guessed, but that each person, when asked, must give a truthful answer concerning some real object that was in his mind, and which was consistent with all the answers that had gone before. With only one question left, John Wheeler guessed: “Is it a cloud?” The answer was “Yes!”

Replace 'cloud' with '[pizza](#)', and you will understand the *potential*, not-yet-physicalized origin of gravity as *Res potentia* — it does not live anywhere on the light cone (pp. 8-9 in [FRAUD.pdf](#)). It only has **point-like** “footprints” on the physical reality viz. the [real line](#), like John Wheeler's 'cloud' or '[pizza](#)', in terms of **4D shadows** cast on the wall in Plato's cave (Fig. 4 in [CEN.pdf](#)). Check out my forthcoming video lecture on 21 September 2018, announced on p. 26 in [Hyperimaginary Numbers](#): God ([Luke 17:21](#)) does exist, both as purely mathematical object (pp. 21-26 in [Hyperimaginary Numbers](#)) and as [The Holy Trinity](#). This is the doctrine of *trialism* (p. 64 above and Slide 14 in [Quantum Spacetime](#)), which paves the way for physical theology.

D. Chakalov

February 11, 2018

Last update: February 15, 2018, 12:00 GMT

ADDENDUM

Ten years ago, commemorating Hermann Minkowski's lecture 'Space and Time' in Cologne on 21 September 1908, I invited many theoretical physicists and mathematicians to attend my talk in Munich on 21 September 2008: read [Talk.txt](#), 2 June 2008. Now I offer a video lecture at my YouTube channel on 21 September 2018 (see p. **26** in [Hyperimaginary Numbers](#)) and have again invited dozens of theoretical physicists and [mathematicians](#).

ABOUT SPACE AND TIME

Video lecture, 21 September 2018
D. Chakalov, [chakalov.net](#)

Abstract

Ensuing from Plato's proposal and the ideas put forward by Heraclitus and Aristotle, I interpret the atom of geometry (dubbed "point") as mathematical object endowed with its own topology, kinematics, and dynamics. What we call 'spacetime' is not some inert geometric object, but a holistic bootstrapping phenomenon which holds the entire physical universe together, as the latter evolves along the so-called Arrow of Space. Hence 'space' and 'time' are interpreted as emergent phenomena pertaining solely to the "wall" in Plato's cave, while their Platonic source, dubbed 'potential reality' or *Res potentia*, does not live anywhere on the light cone (Plato's "wall" dubbed 'local mode of spacetime') and remains perfectly hidden by the "speed" of light. What physicists call 'spacetime' is interpreted only as *local mode* of spacetime relevant only to the *physicalized* explications of the Universe — nothing but 4D "shadows" of *Res potentia*, as Plato has suggested many centuries ago. Thus, a new quantum-gravitational spacetime, equipped with local and global modes, is proposed for quantum gravity and cosmology: every *physicalized* system is endowed with both 4D local mode of spacetime determined by the local properties of matter and fields, and global mode of spacetime determined by the properties the entire Universe as ONE, most notably the Arrow of Space ("you cannot look twice at the same river", Heraclitus). It's a bundle.

Details and references in p. **26** in [Hyperimaginary Numbers](#).

February 15, 2018, 18:38 GMT