Explosion from supermassive black hole at centre of galaxy

To: Joss Hawthorn <jbh@physics.usyd.edu.au>, mjr36@cam.ac.uk, Ralph.Sutherland@anu.edu.au, philip.maloney@colorado.edu
Thu, Sep 26, 2013 at 4:56 PM

Professor Joss Bland-Hawthorn
Dr Ralph Sutherland
Dr Phil Maloney
Professor Martin Rees

Dear Sirs,

I write in response to the following University of Sydney online news article in which you all get a mention:

USYD – News: The dragon awakes - colossal explosion from supermassive black hole at centre of galaxy revealed, 24 September 2013

http://sydney.edu.au/news/84.html?newscategoryid=2&newsstoryid=12387&utm_source=console&utm_medium=news&utm_campaign=cws

You talk of a supermassive black hole at Sgt A* that erupted some 2 million years ago with a huge emission of radiation. Professor Bland-Hawthorn is quoted in the article thus:

"The realisation that these black holes can switch on and off within a million years, which given the universe is 14 billion years old means very rapidly, is a significant discovery.

"*There are lots of stars and gas clouds that could fall onto the hot disk around the black hole"*.

Professor Rees is quoted in the article thus:

"*It's been long suspected that our Galactic Centre might have sporadically flared up in the past. These observations are a highly suggestive smoking gun*".

Furthermore,

"*Black holes, the most remarkable consequences of Einstein's theory, are not just theoretical constructs. There are huge numbers of them in our Galaxy and in every other galaxy, each being the remnant of a star and weighing several times as much as the Sun. There are much larger ones, too, in the centers of galaxies. Near our own galactic center, stars are orbiting ten times faster than their normal speeds within a galaxy.*"
[Martin Rees, Our Cosmic Habitat (2001)]

Upon what set of Einstein field equations and upon what solution thereto do you all rely for the "*lots of stars and gas clouds that could fall onto the hot disk around the*

black hole" at "*our Galactic Centre*" in an expanding big bang universe that is "*14 billion years old*"?

What type of black hole do you allege at Sgt A*? Is it rotating or not, is it charged or not? The singularity of the alleged non-rotating black hole is a mathematical point –it has no extension and hence no volume, but it allegedly has mass (and infinite density). The singularity of the alleged rotating black hole is the circumference of a circle; not a circle mind you, only the circumference of a circle. It too has no volume, but allegedly has mass (and infinite density).

"… *there must be a singularity of infinite density, within the black hole*." [Hawking, S. W., The Theory of Everything, The Origin and Fate of the Universe, New Millennium Press, Beverly Hills, CA, (2002)]

I also draw your attention to the following.

All alleged black hole universes:
(1) are spatially infinite
(2) are eternal
(3) contain only one mass
(4) are not expanding
(5) are either asymptotically flat or asymptotically curved.

The alleged big bang universes:
(1) are spatially finite (one case) or spatially infinite (two cases)
(2) are of finite age
(3) contain radiation and many masses, including multiple black holes (some of which are primordial)
(4) are expanding
(5) are not asymptotically anything.

The defining features of the black hole universe clearly contradict the defining features of the big bang universes. Consequently the black hole universe and the big bang universe are mutually exclusive – they cannot coexist. No mathematics is required to see this because it is a matter of elementary logic.

Hawking would have us believe that a black hole not only exists but disappears by quantum-mechanical evaporation. If so then a black hole universe transmutes into a non-black hole universe. What universe is that? Hawking has no set of Einstein field equations for a universe containing only Hawking radiation and hence no solution thereto. Moreover, Hawking maintains that his Hawking radiation universe exists in black hole universes because he alleges black holes all over the place, just as you do, all in some expanding big bang universe (which big bang universe do you allege?).

The big bang has a very peculiar nature:

"One crucial assumption underlies the standard hot big-bang model: that the universe 'began' in a state of rapid expansion from a very nearly homogeneous, isotropic condition of infinite (or near infinite) density and pressure."

[Misner, C. W., Thorne, K. S., Wheeler, J. A., Gravitation, W. H. Freeman and Company, New York, (1970)]

Now I ask you gentlemen, how close to infinite must one get to be "*near infinite*"?

Now Einstein's field equations are *nonlinear*. Consequently the Principle of Superposition is invalid in General Relativity. One cannot therefore superpose any alleged black hole universe upon any alleged big bang universe or upon any other alleged black hole universe. Similarly one cannot superpose any alleged big bang universe upon any alleged black hole universe or upon any other alleged big bang universe. One cannot superpose any matter and radiation upon any black hole universe or big bang universe in order to get stars and galaxies and accretion discs and jets and planets and multiple black holes, etc. To do so violates the mathematical structure of General Relativity. Let $\boldsymbol{X}$ and $\boldsymbol{Y}$ be solutions to Einstein's field equations. It does not matter if $\boldsymbol{X}$ and $\boldsymbol{Y}$ are the same or different. Let a and b be scalars. Then the linear combination $a\boldsymbol{X} + b\boldsymbol{Y}$ is not a solution to Einstein's field equations, because General Relativity is nonlinear. To amplify further, let $\boldsymbol{X}$ be an alleged black hole solution to Einstein's field equations and let $\boldsymbol{Y}$ be an alleged big bang solution to Einstein's field equations. Then the linear combination (i.e. superposition) $\boldsymbol{X} + \boldsymbol{Y}$ is not a solution to Einstein's field equations, it is not a universe, because General Relativity is nonlinear. Indeed, in this particular case $\boldsymbol{X}$ and $\boldsymbol{Y}$ relate to completely different sets of Einstein's field equations and so they bear no relation to one another whatsoever.

However, superposition is precisely how you have generated a big bang universe with multiple black holes and stars and galaxies and radiation and accretion discs, and "*stars and gas clouds that could fall onto the hot disk around the black hole*".

Professor Joss Bland-Hawthorn speaks in this Youtube presented interview:

http://www.youtube.com/watch?v=ASAmYz8rZfQ

Herein he talks of black hole escape velocity. On the one hand it is claimed that the black hole has an escape velocity:

"**black hole** A region of spacetime from which the escape velocity exceeds the velocity of light"
[Dictionary of Geophysics, Astrophysics and Astronomy, 2001]

"**black hole** A massive object so dense that no light or any other radiation can escape from it; its escape velocity exceeds the speed of light."
[Collins Encyclopædia of the Universe, Harper Collins Publishers, London, 2001]

Yet on the other hand it is also claimed that nothing can even leave a black hole.

"I had already discussed with Roger Penrose the idea of defining a black hole as a set of events from which it is not possible to escape to a large distance. It means that the boundary of the black hole, the event horizon, is formed by rays of light that just fail to get away from the black hole. Instead, they stay forever hovering on the edge of the black hole."

[Hawking, S. W., The Theory of Everything, The Origin and Fate of the Universe, New Millennium Press, Beverly Hills, CA, (2002)]

"The problem we now consider is that of the gravitational collapse of a body to a volume so small that a trapped surface forms around it; as we have stated, from such a surface no light can emerge."
[Chandrasekhar, S., "The increasing role of general relativity in astronomy", The Observatory, 92, 168, (1972)]

Thus, the black hole is alleged to have an escape velocity and not to have an escape velocity simultaneously, which is impossible.

Upon what set of Einstein field equations and upon what solution thereto do you all rely for black hole escape velocity, bearing in mind that all alleged black hole universes contain only one mass and escape velocity is a two-body relation: one body escapes from another body, where there is no restriction placed upon the finite magnitude of the mass of either body.

In his interview Professor Bland-Hawthorn presented cartoons for visual impact and impression upon his audience and said that the alleged supermassive black hole Sgt A* has been growing since the big bang universe spawned the Universe. This black hole must therefore be a primordial black hole, not formed by the 'collapse' of a star, and it has not only grown all this time (14 billion years), it has not 'evaporated' into Hawking radiation to transmute a black hole universe superposed upon many other black hole universes and stellar universes all in turn superposed upon some big bang universe, into some non-black hole, non-big bang universe for which no Einstein field equations have been furnished, let alone a solution thereto.

Yours faithfully,

Stephen J. Crothers

On Sat, Sep 28, 2013 at 7:09 AM, John Friedman <friedman@uwm.edu> wrote:

Dear Stephen Crothers,

Here's a quick reply to a few of your questions.
> What type of black hole do you allege at Sgt A*? Is it rotating or not, is it charged or not?

Rotating and with negligible charge.

> Now I ask you gentlemen, how close to infinite must one get to be "*near infinite*"?
This is a rough way of saying the density at which classical gravity is not valid, around Planck density, or over 10^94 g/cm^3. Within the classical

theory, as you note, the density becomes infinite, if a positive energy condition is satisfied.

> The singularity of the alleged rotating black hole is the circumference of a circle . . .

This singularity is present in an analytically extended solution and is not part of the time-evolution of a collapsing star. What happens to the speck into which the matter collapses is not known. What one can observe is matter outside the event horizon, a surface with a circumference of several million km.

Regards,

John Friedman

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John L. Friedman — friedman@uwm.edu
Distinguished Professor Emeritus — Phone 414 229 4476
Department of Physics — FAX 414 229 5589
University of Wisconsin-Milwaukee — Physics 422
PO Box 413
Milwaukee, WI 53201
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From: **Stephen Crothers** <thenarmis@gmail.com>
Date: Sat, Sep 28, 2013 at 11:11 PM
Subject: Re: explosion from supermassive black hole at centre of galaxy
To: John Friedman <friedman@uwm.edu>

Professor John Friedman,
Distinguished Professor Emeritus
Department of Physics
University of Wisconsin-Milwaukee

Dear Sir,

Your short email does not actually possess any scientific content. You have in fact ignored all the salient issues I raised concerning the incongruent claims made by Bland-Hawthorn et al, and proponents of the black hole and big bang generally, instead limiting yourself to revealing that the alleged supermassive black hole Sgt A* is a rotating one, "*with negligible charge*" (issues that make no difference to my previous email to Bland-Hawthorn et al), some uninformative comments on the singularity of the alleged rotating black hole, and some damage control on the embarrassing nonsensical statement made by Misner, Thorne and Wheeler, viz.

"One crucial assumption underlies the standard hot big-bang model: that the universe 'began' in a state of rapid expansion from a very nearly homogeneous, isotropic condition of infinite (or near infinite) density and pressure."

[Misner C. W., Thorne K. S., Wheeler J. A., Gravitation, W. H. Freeman and Company, New York, (1970)]

You mention only their "*near infinite*" density. What about their "*near infinite*" pressure? The assertion made by Misner, Thorne and Wheeler is patently absurd. To defend it is no less. Your attempt to twist their nonsense into "*a rough way of saying the density at which classical gravity is not valid*" is merely a common evasive technique; not science. Your 10^94 g/cm^2 alleged "*Planck density*" is no more "*near infinite*" or valid than 10^99999999 g/cm^3 phantasmagorical density. And while we're at it, what about the infinite hotness of emptiness?

"At the big bang itself, the universe is thought to have had zero size, and to have been infinitely hot."
[Hawking, S. W., A Brief History of Time from the Big Bang to Black Holes, Transworld Publishers Ltd., London, (1988)]

Misner, Thorne and Wheeler are not the only to propose such "*near infinite*" nonsense. It is quite standard fare for the proponents of black holes and big bangs.

"But is that, in fact, because of discovering that empty space has energy, it seems quite plausible that our universe may be just one universe in what could be almost an infinite number of universes and in every universe the laws of physics are different and they come into existence when the universe comes into existence."
[Krauss, L., Q&A, television station ABC1, Australia, (Monday, 18 February, 2013a) www.abc.net.au/tv/qanda/txt/s3687812.htm]

I ask, just how close to infinite must one get to attain "*an almost infinite number*"? This is little different to the "*near infinite*" density and pressure of Misner, Thorne and Wheeler.

Your remarks on the singularity of the alleged rotating black hole also make no difference to the fact that it is routinely stated by proponents of black holes that the singularity of the rotating black hole is an infinitely dense circumference of a circle. Resorting to ignorance is to no avail. Your "*speck*" is no different to the "*speck*" of Rees. Such 'specks' are in fact alleged to be points or circumferences of circles. All alleged black hole singularities have no volume, yet are alleged to be of infinite density.

"The work that Roger Penrose and I did between 1965 and 1970 showed that, according to general relativity, there must be a singularity of infinite density, within the black hole."
[Hawking, S. W., The Theory of Everything, The Origin and Fate of the Universe, New Millennium Press, Beverly Hills, CA, (2002)]

The matter that you say "*one can observe is matter outside the event horizon*" comes not from any alleged solution to Einstein's field equations for a rotating black hole or from any other alleged black hole solution thereto. You have put it in by superposition, and you have added to your black hole, again by superposition, The Milky Way, and all the rest of the matter in the Universe, despite the fact that all alleged black hole universes contain only one mass and are not expanding by definition and cannot

coexist with themselves or any big bang universe because their defining characteristics contradict one another, and the fact that the Principle of Superposition is invalid in General Relativity.

If you are truly willing to engage in a scientific discussion, then please address all the issues contained in my previous email to Bland-Hawthorn et al. They have been eerily silent.

Yours faithfully,
Stephen J. Crothers

To: Stephen Crothers thenarmis@gmail.com
Cc: Edward Dowdye <dowdyebusiness@gmail.com>, Vivian Robinson VIV@etpsemra.com.au
Tue, Oct 1, 2013 at 2:07 AM

Dear Mr. Crothers,

It looks like we are talking past each other. What seems relevant to me does not seem relevant to you; and you regard as "damage control" what I thought of as a truthful explanation of what Misner, Thorne and Wheeler had in mind in using the phrase "near infinite." Because my technical expertise is not relevant to your concerns, please leave me out of the continued conversation.

John Friedman

To: John Friedman friedman@uwm.edu

Cc: Edward Dowdye <dowdyebusiness@gmail.com>, Vivian Robinson VIV@etpsemra.com.au

Tue, Oct 1, 2013 at 12:45 PM

Dear Professor Friedman,

We're not talking past one another at all. You completely ignored all the simple facts I adduced. As for the "near infinite" density of Misner, Thorne and Wheeler, what you say and what they wrote are entirely different, and you also kept silent on their "near infinite" pressure, and Larry Krauss' "an almost infinite number".

Pleading that your technical expertise is not relevant to the issues is disingenuous again. You thought your expertise sufficient to wade in with a few pithy remarks in the first place. And to understand the arguments I adduced doesn't require any special expertise beyond a high school education. As a professor of physics you can follow what I wrote, but you choose not to. That is not the mark of a true scientist. You demonstrate that you are part of the problem for science. You were included in the long international list of scientists who received my correspondence in order to expose the salient facts so that you and they might actually do something to better science. Instead you choose to ignore this serious problem and pretend that all is well in the Universe.

Stephen J. Crothers

Joss Hawthorn <jbh@physics.usyd.edu.au>

To: Stephen Crothers thenarmis@gmail.com
Mon, Sep 30, 2013 at 9:24 AM

please stop sending emails.

PROFESSOR Joss Bland-Hawthorn | FAA FOSA
Sydney Institute for Astronomy | School of Physics | Faculty of Science
Associate Director | Institute of Photonics and Optical Science
Room 323, School of Physics A28 | THE UNIVERSITY OF SYDNEY
NSW 2006 | Australia
T +61 2 9351 2621 | F +61 2 9351 7726 | M +61 406 973 133
E jbh@physics.usyd.edu.au | W http://www.physics.usyd.edu.au/~jbh/