

Re: About GR (kst)

Source: <http://sci.tech-archive.net/Archive/sci.physics.relativity/2005-07/msg01354.html>

- *From:* "Ken S. Tucker" <dynamics@xxxxxxxxxxxxx>
 - *Date:* 22 Jul 2005 14:45:14 -0700
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Daryl McCullough wrote:

> Ken S. Tucker says...
>>
>>You and I are astronauts, sitting on the pad
>>and the count-down begins, 5,4,3,2,1...blast-off!
>>at t=1.
>>
>>The g-meter goes from 1g to 2,3,4,5g and stabilizes.
>>
>>A mechanical deformation heated the space-craft
>>as it strained under the effects of the acceleration,
>>the space-craft was heated and an extra infared
>>energy was produced and emitted.
>>
>>You look out the window and find you're still
>>sitting on the pad.....why?
>>
>>Answer:
>>At t=1 the Earth's density increased by factors,
>>1,2,3,4,5, hence it's mass increased likewise
>>while the volume and radius remained constant.
>
> It is impossible, according to GR, for the Earth's
> mass to increase without matter flowing to the Earth from
> elsewhere. So your scenario is inconsistent with GR.
> Something that might work would be to imagine the
> Earth surrounded by a spherically symmetric shell of
> radiation. The radiation could then be absorbed by
> the Earth, which would give the effect of the Earth's
> mass increasing.
>
>>Normally GRist's use $G_{uv}=0$ and Schwart's Solution,
>
> In the case of the Earth, G_{uv} is not zero *inside* the
> Earth. G_{uv} is roughly proportional to the mass density
> of the Earth.

>However, *outside* the surface of the Earth,
> G_{uv} drops to zero (or approximately zero).

Daryl, I won't argue with you, if you choose that belief in view of my post. there is nothing I will do to change the course of your intellect.

> Mathematically, this is analogous to the case for Newtonian
> gravity: the gravitational potential U satisfies
>
> $\text{grad}^2 U = k \rho$
> inside the Earth and
> $\text{grad}^2 U = 0$
> outside the Earth
>
> (where ρ is the matter density, and k is a constant)

I suppose boundary's won't help,

good bye
Ken

• **Follow-Ups:**

- ◆ **[Re: About GR \(kst\)](#)**
◇ From: Daryl McCullough

• **References:**

- ◆ **[About GR \(kst\)](#)**
◇ From: Ken S. Tucker
- ◆ **[Re: About GR \(kst\)](#)**
◇ From: Daryl McCullough

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