Beam me up − trying to get a basic understanding of GR

Source: http://sci.tech−archive.net/Archive/sci.physics.relativity/2005−05/msg00109.html

- *From*: anthonyroseuk−curious@xxxxxxxxxxx (Curious)
- *Date*: 3 May 2005 05:01:34 −0700

Trying to understand SR and GR at a basic level, I've read around on the web and now have questions I can't find answers for. Being new to this all, and having only physics 1, I may be inadvertently resurrecting dumb questions, but if someone has the time and inclination to work with me on this I'd appreciate some answers to these questions.

What I seem to have found so far:

1. SR is invalid. Inertia, motion, aging etc. depend on the locations of masses around us in the universe. There is an absolute frame of reference, the universe. (Whether it is infinite or not we don't know.)
2. GR replaces SR. Some say that it works because it takes gravity into account, but some say it is also invalid, either logically inconsistent or they point to a math flaw.

Some questions I have now are:

a. If you agree that SR is dead, can you explain how GR avoids the bullet that killed SR? I thought that GR ADDs the space−curving effect of gravity to SR?

b1. GR also states, like SR, that time dilates
How can time dilation explain the measurement of light speed as c in both the cases of a spaceship approaching and departing from the light source at near light speed? Surely in one of the cases time dilation is an exacerbating rather than mitigating factor?

b2. Imagine two space−stations ST1,ST2 exactly one light−minute apart in their frame of reference, and two space−ships SP1,SP2 travelling at near−light−speed also the same distance apart, approaching the two stations along the same axis on which they lie:
ST1. . . . . .ST2 <−SP1. . . . . .<−SP2
When spaceship SP1 is alongside ST1, and SP2 alongside ST2, spaceship SP2 flashes a beam of light towards ST1. The light reaches ST1 in one minute ('static'−time). Spaceship SP2 reaches ST2 a second or two later than the light.
b3.1 Does SP2 perceive the distance between ST1 and ST2 to be as far as we do?
b3.2 How many of SP2's seconds does it take the light to reach ST2?

c. Is it possible that we can use SR as a useful approximation, like Newtonian

physis, under limited circumstances?

d. Are there situations in which GR is known to be experimentally dead wrong,
and if so, do we use GR as a useful approximation, under limited circumstances?
.

- ***Follow−Ups***:
  - ♦ ***Re: Beam me up − trying to get a basic understanding of GR***
    - ◊ *From:* Tom Roberts
  - ♦ ***Re: Beam me up − trying to get a basic understanding of GR***
    - ◊ *From:* anthonyroseuk−curious
  - ♦ ***Re: Beam me up − trying to get a basic understanding of GR***
    - ◊ *From:* Koobee Wublee
  - ♦ ***Re: Beam me up − trying to get a basic understanding of GR***
    - ◊ *From:* Bill Hobba
  - ♦ ***Re: Beam me up − trying to get a basic understanding of GR***
    - ◊ *From:* N:dlzc D:aol T:com \(dlzc\)
  - ♦ ***Re: Beam me up − trying to get a basic understanding of GR***
    - ◊ *From:* Dirk Van de moortel
  - ♦ ***Re: Beam me up − trying to get a basic understanding of GR***
    - ◊ *From:* Ben Rudiak−Gould

- Prev by Date: ***Re: Have you ever wondered.....***
- Next by Date: ***Re: Comparisons between SR and LET.***
- Previous by thread: ***Re: Eickmeier fails to stop Hammond***
- Next by thread: ***Re: Beam me up − trying to get a basic understanding of GR***
- Index(es):
  - ♦ ***Date***
  - ♦ ***Thread***