Re: What if gravity isn't a force, just an illusion of expanding spacetime's momentum?

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- *From*: cfk <ckurasek@xxxxxxxxx>
- *Date*: Sat, 21 Jul 2007 17:45:03 −0000

On Jul 21, 2:36 am, "Bill Hobba" <rubb...@xxxxxxxx> wrote:

> "cfk" <ckura...@xxxxxxxxx> wrote in message
>
> news:1184991390.386465.143380@xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

> > On Jul 20, 9:21 pm, "Bill Hobba" <rubb...@xxxxxxxx> wrote:
> >
> > > "cfk" <ckura...@xxxxxxxxx> wrote in message
> >
> > > news:1184962721.776315.270760@xxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
> >
> > > > Could it be possible that gravity isn't a force
> > > > per se, rather
> > > > spacetime expands at a rate proportional to
> > > > the mass occupying it and
> > > > the distance from the mass (like an
> > > > expanding light cone, only made
> > > > from the spacetime 'fabric'), and the 'force'
> > > > of gravity is really
> > > > just an illusion that's an artifact of the
> > > > expansion (like centrifugal
> > > > force isn't really an independent force)?
> >
> > > How does the expansion generate the force? If everything
> > > expands what
> > > presses against what?

> Rest of misconceptions snipped.
>
> Bill

> > If one accepts that spacetime is indeed a fabric that is expanding and consequently affects matter and energy, then inflation would be affecting everything, including us.

Sure − it is quite possible everything is getting bigger − including ourselves. But if such was happening it would have zero experimentally detectable effects because all our rulers etc would be affected as well so everything would measure the same. It would generate no forces anymore than you would expect forces to appear if you projected movie onto the wall next to your bed or a cinemascope screen

> > If spacetime was expanding at
> > different rates (e.g. in proportion to the mass occupying it), then the effects would not be uniform. We know that all galaxies are moving away from us and at an accelerating rate proportional to it's distance from us, so from our relativistic frame, inflation is not having uniform effects.
>
> So what if the rate of inflation of the spacetime occupied by the earth was 9.8 m/s^2 at the crust,

A simple goggle search will return the correct semantics of what is meant by universal expansion − because that is what the above shows − you are mixing the meanings of words in atrocious ways that are laughable − eghttp://en.wikipedia.org/wiki/Metric_expansion_of_space
'The metric expansion of space is a key part of science's current understanding of the universe, whereby spacetime itself is described by a metric which changes over time in such a way that the spatial dimensions appear to grow or stretch as the universe gets older. It explains how the universe expands in the Big Bang model, a feature of our universe supported by all cosmological experiments, astrophysics calculations, and measurements to date. The expansion of space is conceptually different from other kinds of expansions and explosions that are seen in nature. Our understanding of the "fabric of the universe" (spacetime) requires that what we see normally as "space", "time", and "distance" are not absolutes, but are determined by a metric that can change. In the metric expansion of space, rather than objects in a fixed "space" moving apart into "emptiness", it is the space that contains the objects which is itself changing. It is as if without

objects themselves moving, space is somehow "growing" in between them. Because it is the metric defining distance that is changing rather than objects moving in space, this expansion (and the resultant movement apart of objects) is not restricted by the speed of light upper bound that results from special relativity. Theory and observations suggest that very early in the history of the universe, there was an "inflationary" phase where this metric changed very rapidly, and that the remaining time−dependence of this metric is what we observe as the so−called Hubble expansion, the moving apart of all gravitationally unbound objects in the universe. The expanding universe is therefore a fundamental feature of the universe we inhabit−a universe fundamentally different from the static universe Albert Einstein first considered when he developed his gravitational theory.'

If the expansion varied it would happen over such a vast distance as to have zero observational effects locally. Indeed bound objects like ourselves and the earth are not subject to this expansion which really only applies to cosmological sized objects like clusters of galaxies − if such was not the case it would have been noticed long before now. Either that or the effect is so small as to be negligible.

> while the inflation of the spacetime
> occupied by the average human was something negligible (e.g. 9.8 x 10^−10 m/s^2). Due to the greatly disparate rates and 'force' of the planet's expansion, the earth's spacetime inflation would overwhelm the average human's spacetime inflation, essentially becoming the floor of the elevator that is uniformly accelerating into the feet of the rider. Taking this assumption further would imply that by remaining stationary for a long enough period of time, any object would begin to levitate. This can be addressed by assuming the disparity in the force of the two expansions (i.e. the human's vs. the earth's), ends up folding over the lesser expansion. A similar analogy would be tectonic plates − if a massive plate is moving at a relatively high velocity and collides with a stationary plate that is much thinner and less massive, the thinner plate will buckle, either being forced underneath the heavier plate, or forced upwards (e.g. creating a mountain range). So the implication would be the spacetime inflating under the 'weaker' force would buckle / fold (potentially into another dimension?).
>
> The interactions between two bodies of similar mass would be determined by the distance between the two centers of mass − the further away from the center, the exponentially slower the expansion propagates (just as the intensity of light from a light source). If two equally massive bodies are close enough that the interaction between the two rates of inflation maintains enough energy, then both 'plates' end up buckling / folding, with the 'fold' somehow pulling

> the two bodies together, essentially bringing the bodies together at a rate proportional to the decreasing distance between them.
>
> And to explain the inflationary behavior of distance galaxies, one could assume that if two regions of expanding spacetime interact at distances sufficiently beyond the event horizon at which buckling / folding would occur, those two 'fronts' of spacetime would meet and simply push against each other, explaining why the universe can be expanding at accelerating rates, without having to take a leap of faith that there's some 'dark energy' out there counteracting the traditional concept of gravity.
>
> An overall analogy would be taking two pieces of cardboard coming out of cardboard−making machines that are levitating with zero lateral friction holding them in place. If both machines produce cardboard, when the two fronts of cardboard meet, the machines will start moving away from each other (giving us inflation that accounts for gravity and does not require dark energy).
>
> If the machines are making cardboard at an extremely high rate, the meeting fronts of cardboard may either buckle or displace each other, again behaving like tectonic plates, only somehow the folding / buckling material ends up moving faster than the rate of either independent rate of cardboard production, 'pulling' the two machines together. (Obviously there needs to be an explanation for why once the cardboard displaces from the horizontal plane it starts moving faster than the rate at which it's respective machine is making it.)
>
> If one machine is making paper (a human) and one is making cardboard (earth), then when the cardboard and paper meet, the paper will not provide much resistance, such that the cardboard will easily reach the paper−making machine and start pushing on it (and nobody would claim the cardboard was attracting the paper−making machine via any force).
>
> I realize this is still not the most comprehensible explanation of the idea, so let me know if this still doesn't make sense.

It makes zero sense.

It sounds to me like you have been influenced by crank writings like Mark

McCutcheon:http://motls.blogspot.com/2005/08/common−crackpots−errors.html
'It is truly simple to rule out some of the silliest theories proposed by crackpots. For example, Mark McCutcheon argues that there exists no universal force of gravity and Newton's unification of the terrestrial gravity with the celestial gravity was a misconception. However, the apparent existence of NASA (something that most kids can see on TV) that is able to calculate and control the trajectory of their shuttles − for whom both terrestrial gravity as well as celestial gravity is important − should be enough for a person with IQ above 55 (and above 4 years of age) to figure out that something must be wrong with McCutcheon's theory. The crackpots often ignore a majority of the phenomena that are clearly relevant for their theories and they don't care.'

Bill

I will be the first to admit I'm not a physicist, hence my posting this on a relativity forum to get input from people such as yourself and find out if anybody else is out there exploring the possibility. And no, I haven't been influenced by the writings you reference.

All I know is modern physics has a lot of problems, fails to explain a lot of things, falls short of the 'beauty' (Kako's words) found in all other parts of nature, and makes a lot of assumptions that are on par with 'Intelligent Design' (e.g. I don't have an explanation for X, so I'm going to blindly assume it's a mysterious and all powerful force that cannot be observed [God / 'dark' energy & matter]... not to mention the fact that it relies upon things such as imaginary particles to keep the framework from breaking down). I don't think blindly putting our heads down and trying to force the current branch of physics to explain everything is going to work.

It's going to take some original thinking − the vast majority of which will end up being wrong − and if I'm a crackpot for being curious, then fine. I'm no Galileo, but he was a 'crackpot' in his time − are you comfortable playing the role of the Vatican? Since Newtonian physics is technically not 'correct', is he a crackpot? Einstein also believed QM was a farce − another crackpot? I think the vast majority of modern physics will end up looking like the medieval machinations of misguided crackpots, just as we look at Greek models of the solar system. Just because a theory is the best current explanation / model for a given natural phenomenon doesn't make it right. I'm sure if you went back 100 years and told the world's leading physicists that spacetime was a fabric that is deformed by mass, they would think you're a crackpot as well.

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