

Re: [OT] Re: whats with this love of kaffiene?

## Re: [OT] Re: whats with this love of kaffiene?

---

*Source:* <http://linux.derkeiler.com/Mailing-Lists/Fedora/2007-04/msg03283.html>

---

- *From:* Gene Heskett <[gene.heskett@xxxxxxxxxxx](mailto:gene.heskett@xxxxxxxxxxx)>
  - *Date:* Sat, 28 Apr 2007 15:06:28 -0400
- 

On Saturday 28 April 2007, Marko Vojinovic wrote:

On Thursday 26 April 2007, Tim wrote:

I could never get any lecturer to give a sane explanation of AM. They'd tell us that the carrier was a fixed amplitude. I'd argue that AM was modulating the carrier, therefore it has a varying one. I'd even demonstrate by cranking the pot up and down to give a 1 Hertz AM. None of them could give a reasonable explanation. Yes, they could give strange ones, but none that fitted the situation demonstrated.

On Thu, 2007-04-26 at 11:07 -0400, Gene Heskett wrote:

I suspect they got lost someplace in the vector math, or the fourier transforms.

I don't quite understand the problem here. Amplitude and frequency modulation are two extreme (and somewhat idealized) cases of superposition of two sine waves. I remember it was clear and obvious to me in highschool physics course, and never had any second thoughts about the subject. Am I missing something there, or were you just reviewing the teachers typical lack of ability to explain something? :-)

Re: [OT] Re: whats with this love of kaffiene?

In my case, the teachers inability to understand, explaining it was a waste of his breath. Fortunately, most of my fellow students at the time did understand what I said although I did have to drown him out. Back then I didn't need a telephone to talk long distance if it wasn't too long. :-)

On Friday 27 April 2007 05:55, Gene Heskett wrote:

The one question that never got answered well was "what is gravity", and 60 years later we still don't have it fully defined. We don't even know how fast it propagates. All we can do is infer that its at least 1000x C speed or the orbital mechanics as we calculate them today, would be so broken the earth would have spiraled into the sun 4.5 billion years ago. It may be the only superluminal force in the universe.

Gene, I would guess those books you read were quite old :-). AFAIK, so far there is \*no\* phenomenon found in nature (or Nature, if you prefer) that propagates superluminally, with the possible exception of 'bad news' (as geniously pointed out by Douglas Adams).

Yes, Doug did have a way with words, I miss him.

Orbital mechanics is just fine with that.

No, it isn't. If the force of gravity was directly in line with where we see the sun with light that is now 8 minutes old, it doesn't work. Period, full stop. It only works if that vector force is pointed at where the sun is now, not where we see it with that 8 minute old light. The diff is what, 700 miles but I forget the time frame, minutes or seconds.

There is even a web page, complete with the math examples for those that can double check the results, that while not offering a finite value for the pv speed of gravity, comes to the conclusion that it cannot be less than 10x C speed, and probably much faster than that, in order for the orbital math to match reality. I was going to snip it from my ff bookmarks, but it seems to have been a casualty of an upgrade. I found it with a google search about 3 years ago.

But we have no means of making a Michelson–Morely type experiment of our own just yet, due to the fact that we have not yet learned how to modify gravity in a manner that would allow us to measure the pv of that modified gravitational field. Now if someone were to come up with a switch so we could turn it off, even for a femtosecond, then we could make that measurement a piece of cake.

Re: [OT] Re: whats with this love of kaffiene?

Re: [OT] Re: whats with this love of kaffiene?

This is yet another reason I think we'll have troubles if one of our gravity measuring satellite things puts out a signal from a couple of merging stars or black holes. If that signal is instant, or even as slow as  $10x C$ , then how are we to correlate that with the supernova event we won't see for 170,000 years? Excellent question methinks. How far is it to Eta Carina? What we see taking place there is interesting, but its also pretty ancient history. How do we know that star even exists today? In short, we don't.

Also, there are conceptual problems with the possibility of detection of anything moving faster than light (noone says things cannot move that fast, but just that it is kind of impossible to measure any property of such a thing).

As for gravity, it is true that it is not "fully defined" in a sense (whatever that sense may be), but that has nothing to do with the (im)possibility of superluminal propagation.

To me, you can leave off the (im). Solving it is of course yet to be discovered, and that's an effort that I think many in your field don't make, just because they already "know" its impossible. But if we don't blow ourselves to hell with our toys, I think we probably will in due time. The question is when, and at what cost in energy to make it from this reality to one that has a switch to control it. ATM gravity binds us firmly to this planet, with not much chance of infecting the rest of the universe with our kill or be killed ways. Gravity, God's version of an antihuman antibiotic for the rest of the universe maybe? :-)

Btw, "what is gravity" is one of the first serious questions I asked my grandfather when I was 4 or 5 years old. He gave me this answer: "Throw a rock up in the air. It flies up, up, up, and at some point it stands still and starts thinking --- should I fly further up, or should I go back down? After some thought, it decides to come back down and falls to the ground. The process of rock making such decisions is called gravity." Of course, I went on to ask why doesn't the Moon fall down, and got the answer "Well, the Moon just keeps reconsidering whether it should fly away or fall down, and cannot make up it's mind. That's why it always stands up there." Further, I wondered, why does the rock \*always\* decides to fall back down? "No, it doesn't always decide to do so. But, all rocks that decided to fly away are already gone way up in the sky, so you never met any of them."

Twenty five years later, after having learned most of differential geometry, general relativity, spin-2 field theory etc., the only thing I can do is to give more and more appretiation and admire the purity of grandfather's explanation. It may be naive, but it is by all means remarkably correct, in all it's aspects. Every child has an intuitive notion of the concept of "thinking", and enough imagination and mind-purity to attribute it to all things it sees (a rock, for example). Those are the only abstract notions

Re: [OT] Re: whats with this love of kaffiene?

Re: [OT] Re: whats with this love of kaffiene?

required to give a viable description of gravity, and furthermore, that description is faithful enough to give answers to other related questions in a logically consistent manner. And all that being brutally simple, for the small me to understand easily. I am both thankful to and envious of my grandfather for being able to give me such an answer. As I grow, I just strive to compete with that ability of giving simple answers to deep questions. Anyway, in the end, that's why I became a physicist :-).

Your grandfather knew very well, what he did, and didn't know, and did an excellent job of translating that into common sense. I'd like to have met him if the language barrier didn't spoil it for both. That sort of an explanation didn't come out of a mind rated at IQ=100. 150+, maybe a lot more +, in which case I'd be unarmed.

Ah, memories, memories... Random accessed. ;-)

Best regards, :-)  
Marko

Marko Vojinovic  
Institute of Physics  
University of Belgrade  
=====  
e-mail: vmarko@xxxxxxxxxxxx

---  
Cheers, Gene  
"There are four boxes to be used in defense of liberty:  
soap, ballot, jury, and ammo. Please use in that order."  
-Ed Howdershelt (Author)  
"It was a virgin forest, a place where the Hand of Man had never set foot."

---  
fedora-list mailing list  
fedora-list@xxxxxxxxxxxx  
To unsubscribe: <https://www.redhat.com/mailman/listinfo/fedora-list>

Re: [OT] Re: whats with this love of kaffiene?