

As an addition to the last SS posts above: if a small mass [say, a planet],  $m$ , moves from infinity to a large mass [say, a star],  $M$ , on a distance  $R$  to  $M$ ,  $m$  has kinetic energy/gravitational mass defect [see attached PDF] two times larger than it would be if the  $M+m$  system be “static” i.e. if  $m$  rotates around  $M$  through perfect circular orbit with radius  $R$  [that happens in GPS case].

A note else, to [though that really is clarified in SS posts May 11-18 above]

*“...The point is this. I think Einstein said that time is what a clock measures. If the time dilation effects the internal mechanisms of all clocks (atomic clocks, lifetimes of unstable particles, biological aging, etc.) in the same way, it is the same thing as effecting time itself....”*

- yeah, humans thousands of years thought – and most of them, including mainstream physicists, think till now, that – which is extremely fundamental something – time flows to somewhere, carrying at that everything – and at that aging, destroying, etc. everything, say “time is Chronos” of antic Greeks.

In physics this was postulated by Newton in 1686

**“...Absolute, true and mathematical time, of itself, and from its own nature flows equably without regard to anything external...”**

- including flows without regard to any clocks – while clocks are some instruments that are carried/ “effecting” by time itself, which ticks equably, and so measure the time flow. So, say, if something moves in 3D space with a speed  $V$  from a point, it passes oin a time interval,  $t$ , the way along X-axis,  $S$ ,  $S=Vt$ , where  $t$  is real time flow interval, which a clock shows correctly.

But Newton understood that from this fact by no any means it follows that clocks showings and the time are the same.

Including in the SR the Newton’s above is retained, with a few “corrections”, first of all in that there exists something that is more mighty than time - “inertial reference frmes”, which, if move, “dilate” time [flow]; and, at that [Minkowski 1908]

**“...The views of space and time which I wish to lay before you have sprung from the soil of experimental physics, and therein lies their strength. They are radical. Henceforth space by itself, and time by itself, are doomed to fade away into mere shadows, and only a kind of union of the two will preserve an independent reality...”**

This is just the one of utmost fundamental tenets in mainstream physics now, which really, as that is rigorously shown in the SS&VT “The Information as Absolute” conception and BVPSIP model, is fundamentally wrong there cannot be absolutely fundamentally any “time flows”,

- while well more hamble Newton’s/Einstein’s that “time is what a clock measures” – together with what Einstein didn’t say, despite that would be quite natural, “that space is what a ruler measures” is ,though only in certain sense, correct. Inertial frames, where “space” and “time” are measured, are completely/purely humans’ products, while for absolutely fundamental space and time, and “simply fundamental” Matter, it is absolutely all the same what humans think and do.

However Matter is rather simple system that is based on a simple binary reversible logic, so humans [why and how? – that also can be, and is clarified only in the conception above] **though purely instinctively** - as that all other living beings on Earth do - obtain and analyze information about what exists and happens in Matter. Including in Matter “for humans” the Galileo-Poincaré really

extremely ni9hty relativity principle acts - and so Lorentz transformations that follow from the principle.

Including so the “that time is what a clock measures” really has a sense only if it is as : that ”time is what a clock measures only if clocks are synchronized in accordance with Lorentz transformations”.

Etc., more see SS posts pointed above and links in the posts, first of all

<https://www.researchgate.net/publication/391209088> The Informational Conception and Basic Physics, where the fast bodies mechanics, including, first of all, what are space and time in/for Matter, physical sense of Lorentz transformations, are really rigorously scientifically clarified .

Cheers

<https://www.researchgate.net/post/Does-a-gravitational-field-have-energy-density-like-an-electric-field/223> \*\*\*\*\* ##-28-05-26, page 223

=====  
L.D. Edmonds

From this

“...Consider a clock moving relative to an observer. Consider the observer's time coordinate (the time on his own clock) of a given display (e.g., 3:00 o'clock) on the moving clock. My understanding of your theory (explained to me by someone else) is that the Lorentz transformation (LT) correctly predicts the observers time coordinate but for the wrong reason. Instead of time being different for different observers, the motion of the moving clock changes internal mechanisms of the clock in a way that changes its tick rate. Is that interpretation of your theory correct? If that interpretation of your theory is correct, then, at most, only one of the two clocks (the observers clock or the clock moving relative to the observer) can be correct. What clock keeps the correct time?. .....”

- it follows that you – and the *someone else* - rather strangely understand till now what are Lorentz transformations in both, mainstream physics and the PSDIP theory [and what is written here in SS posts May 11-18], where the Lorentz transformation (LT) correctly predicts the **observers time coordinate** just for the really scientifically correct reason. So reoeat;

Really, of course, **fundamentally nothing happens with fundamentally absolute time because that somewhere in absolute space some observers with their inertial reference frames appeared,**

every of which completely subjectively [and if that is a mainstream physics observer – really only instinctively, since really don't understand what he does] establish **the observers time coordinate**, where he is going to measure time intervals by using the IRF's clocks

And **clocks showings** – but, again, **by no means times** - are quite really different in relatively moving frames, at that so in every of the frames clocks tick faster then in opposite frame - and, simultaneously, tick slower in the opposite frame. What – as that more known as “Dingle objection to SR” is evident absurdity.

However, again, this absurdity is quite inessential in everyday practice, where used IRFs really are rigid systems of rulers and **synchronized in accordance with Lorentz transformations distant clocks**, since, as that Poincaré had shown in 1905 LT form the group and so all IRFs are equivalently- i.e. correctly at using - **traceable to each other**; and so to any “absolute” IRFs,

**the instruments of which are at rest in absolute 3SXYZ space**, where measured by the instruments space and time intervals values are real.

Including the LT are adequate to the reality only because that moving in the absolute 3D space rigid bodies/systems of the bodies **have really contracted in 3D space lengths, intrinsic processes in them are really slowed down in the Lorentz factor**. by Pythagoras theorem, what, again, if is measured in an absolute frame, has real values

And, at **that measured in co-moving with the bodies /systems IRF** lengths and internal processes rates [including clocks tick rates] of /in being at absolute 3D spac rest copies of the moving bodies and clocks values are contracted/slowed in the Lorentz factor, i.e. **are quite unreal**.

However only using these measured in concrete experiments concrete material objects [that can move in the absolute 3D space to anywhere and with any velocity] parameters unreal values it is possible really correctly to describe and analyze what exists and happens in a studied systems;

- including **the analyses results will be the same as would be at using an absolute frame**.

However, again – see SS posts above - this IRFs equivalence above in Matter’s 4D imaginary mathematically Mikowski space with metrics  $(ict, X, Y, Z)$ , and on the real mathematically Lorentz theory absolute Euclidian spacetime with metrics  $(ct, X, Y, Z)$ , is complete only in everyday physical practice.

Real Matter’s spacetime, as that is rigorously shown in the SS&VT PSIP model, is fundamentally absolute, fundamentally flat, fundamentally continuous, and fundamentally “Cartesian”, [5]4D spacetime with metrics  $(ct, X, Y, Z, ct)$ , where  $ct, X, Y, Z$ , are **4 space dimensions**,  $ct$  is the real [absolutely unique and universal for everything] time dimension

So really outside the practice the SR/Lorentz theory are non-applicable really scientifically.

Say, **really existent in Matter antiparticles** - which, as the particles - move constantly and always with the speed of light in the real time dimension only, of course, in one “positive” direction, and, simultaneously in parallel, **particles and antiparticles move oppositely** in the  $ct$ -direction, **don’t exist in the SR/Lorentz theory**; and so are introduced in mainstream physics by postulating that are created from really evidently irrational “sea of negative energies”, that antiparticles by some mystic way move “back in time; etc.

Cheers

<https://www.researchgate.net/post/Does-a-gravitational-field-have-energy-density-like-an-electric-field/224> \*\*\*\*\* ##-29-05-26, page 223.

=====  
Last time in the thread a number of rather strange posts appeared, which, however, look as should be commented. So a few comments, firstly to the AI’s “analysis” of SS posts on pages 223 [2 days ago now], and 224 [yesterday now]

Both analyses really are sets of passages, which are really scientifically senseless, since the AI doesn’t understand what is written in SS posts, and stubbornly repeats mainstream physical senseless tenets. The sets are long, so briefly to few concrete, and to certain extent essential in this case, AI’s 223 post points, *italic* is the AI’s citations.

“...1. *The kinetic vs circular orbit energy remark*

Sergey's "addition" begins:

if a small mass  $m$  moves from infinity to a large mass  $M$  on distance  $R$ ,  $m$  has kinetic energy/gravitational mass defect two times larger than in a circular orbit at  $R$ .

*This is just the standard Newtonian result: ... this opening does not advance his case against SR/GR; it just restates a textbook energy comparison and hints, without demonstration, that PSIP handles it "differently...."*

- the really, of course textbook – not SS&VT discovery - , "addition" in the SS post is an other example [additionally to H-atom example in previous SS post] that in static coupled by fundamental Forces systems of large  $M$  and small  $m$  masses the Forces [in this case electric and gravitational] mass' defects are two times lesser than if the system isn't static. i.e., say, if  $m$  freely falls in  $M$ 's Gravity field.

If  $m$  moves through perfect circular orbit around  $M$ . that, **despite the motion, is static case** Including so the gravitational mass defect – and so GR's relative "gravitational time dilation" - in moving circularly GPS clocks practically for sure isn't  $gh/c^2$ , as that GR predicts and is in GPS program shell, but is  $gh/2c^2$ , as that PSIP model predicts. Though yeah, this must be tested experimentally, what, again, see SS posts above – can be made quite easily in [proposed in PSIP model] 2915 experiment, and if an institution has couple of transportable ordinary clicks, that would cost a few \$hotheads.

**This experiment, if the result would be in accordance with the GR , would be utmost direct and rigorous confirmation of GR validity**, and so it looks as that the experiment well probably was made, but instead GR confirmed PSIP model. Again. If the result would be predicted by the model's one, that would be rigorous substantiation of well more fundamental proposed in 2007 experiment, where the quantum nature of Gravity well probably would be observed.

Other point is in that the AI seems analyzed/comments in this its post the arXiv:0707.4657 2007 version of one of two main papers <https://www.researchgate.net/publication/391209088> The Informational Conception and Basic Physics; what happened since in arXiv well know that Planck scale physics must be discovered by "correct" authors, while real authors are incorrect; so any information about the PSIP model and the authors must be somehow hidden; and so later the paper's versions submissions [4] after 2007 weren't indexed in the cross-ref sources, in arXiv that are NASA ADS, Google Scholar, Semantic Scholar; where so only 2007 version is indicated., which the AI considered.

It looks as that the AI – as all other free AIs - has no access to to RG publications since can know about tabooed in mainstream things, including that are pointed in SS posts PSIP model ones, However its click on <https://arxiv.org/abs/0707.4657v5> opens the RG URL above, click on <https://www.preprints.org/manuscript/202110.0453/v7> opens the other main paper

<https://www.researchgate.net/publication/395113364> Planck scale informational physical model and fundamental problems in physics .

Cheers

<https://www.researchgate.net/post/Does-a-gravitational-field-have-energy-density-like-an-electric-field/225> \*\*\*\*\* ##-30-05-26, page 225