

Re: SR inertial frame scope

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From: Rafael Valls Hidalgo-Gato (valls_at_icmf.inf.cu)

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"beda pietanza" <beda-pietanza@libero.it> wrote in message
news:<qNOTd.51489\$IB4.1387735@twister1.libero.it>...
> "Rafael Valls Hidalgo-Gato" <valls@icmf.inf.cu> ha scritto nel messaggio
> news:33d06fe2.0502211417.1ab509d1@posting.google.com...
> > "beda pietanza" <beda-pietanza@libero.it> wrote in message
> news:<SkuRd.40424\$QG6.709222@twister2.libero.it>...
> > > <valls@icmf.inf.cu> ha scritto nel messaggio
> > > news:1108687815.924258.96140@f14g2000cwb.googlegroups.com...
> > > >
> > > > beda pietanza wrote:
> > > > > "Rafael Valls Hidalgo-Gato" <valls@icmf.inf.cu> ha scritto nel
> > > > > messaggio
> > > > > news:33d06fe2.0502161352.7b0ac06f@posting.google.com...
> > > > > Newton starts his Principia...taking out all the bodies and
> > > > > conceiving
> > > > > his absolute space and separated absolute time, the privileged
> > > > > inertial frame where a single body can exist moving with constant
> > > > > velocity. Later, his three mechanical laws are valid in the
> > > > > privileged
> > > > > frame and in any other frame moving with constant (absolute)
> > > > > velocity.
> > > > > Since then this is denoted as the Galileo's Principle of
> > > > > Relativity.
> > > > > In 1905 the privilege is abolished by Einstein, remaining all
> > > > > inertial
> > > > > frames with equal rights and the same physical laws
> > > > > (electrodynamics
> > > > > included).
> > > > > But are really completely equivalent all inertial frames? If we
> > > > > considered their properties without the presence or influence of
> > > > > the
> > > > > real existing bodies, as is the case when Einstein developed
> > > > > Relativity Theory in 1905, we have no reason to think that the
> > > > > equivalence is not total. But if we put the bodies, with their
> > > > > masses
> > > > > and other attributes, then I am not so sure. Why? Because Einstein
> > > > > himself starts immediatly the development of General Relativity,

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>>>> *with*
>>>>> *mass–energy warping the space–time.*
>>>>> *I am putting my attention in some very specific class of inertial*
>>>>> *frames, the center of mass ones for a determined set of bodies. It*
>>>>> *appears that this frames can be used only to describe the bodies*
>>>> *that*
>>>>> *belong to the associated set, what seems very logical. I denoted*
>>>> *these*
>>>>> *systems Hierarchical Inertial Systems (HIS), where the selected*
>>>> *body*
>>>>> *set determines a UNIQUE inertial frame to describe them. The*
>>>>> *Hafele&Keating experiment and the GPS results are in total*
>>>> *agreement*
>>>>> *with my HIS approach.*
>>>>> *Any comment will be appreciated.*
>>>>>
>>>>> *RVHG*
>>>>>
>>>>> *Just a brief consideration if you choose the center of mass of a set*
>>>> *of*
>>>>> *objects as the origin of a frame of reference, this arbitrary choice*
>>>>> *has nothing to do with the distribution of the physical*
>>>> *charateristics*
>>>>> *that makes the local ether:*
>>>>> *the ether depends mainly from the local effects of distant mass.*
>>>>>
>>>>> *The local masses certainly partecipate to modify the local ether*
> *but*
>>>> *the*
>>>>> *amount of the modification due to the local masses is unknown.*
>>>>>
>>>>> *Therefore the center of mass of any set of objects will be*
> *absolutely*
>>>>> *moving versus the ether by a certain unknown amount and the choice*
>>>> *falls*
>>>>> *in the same arbitrariness of any other choice.*
>>>>>
>>>>> *The SR is meant to ignore the ether and this is good enough for*
>>>> *terrestrial*
>>>>> *speeds, this approximation is shared by all the different approaches*
>>>> *till we*
>>>>> *are not able to detect the ether with a sufficient precision.*
>>>>>
>>>>> *best regards*
>>>>>
>>>>> *beda pietanza*
>>>>>
>>>>> *I am not an aetherist, I accept the two postulates of 1905 Einstein's*
>>>>> *Relativity, physics laws are the same in all inertial frames including*
>>>>> *light behavior in similar conditions*
>

> *I agree that a relativistic approach can be used to deal with "collisions
> like" interactions and do without the ether, nor so light behavior that is
> only a result of the synchro arrangement.*

>

You must know that in today modern Quantum Theory, photons are particles that can make "collisions" with other kind of particles or among themselves. Two photons colliding can be converted in a pair electron–positron and vice versa. This takes out any privilege for light. Light velocity in a medium at a macroscopic level can be explained as a complex process of photons absorbed and emitted at the microscopic level. The vacuum light velocity can be considered as a limit for this kind of processes.

> >. *But I do not accept inertial*

> > > *frames without an associated and completely determined body set,*

> > > *limiting the scope of each frame to describe only the bodies that*

> > > *belong to it.*

>

> *But what is in or out of the set of bodies is arbitrary, and also arbitrary
> is to exclude the influence, always present, of the external world.*

> *Back to light behavior, two different moving bodies–sources emit, each
> of them, a pulse of light, these two pulses travel together the Space due to
> Space characteristic that are not just locally determined, actually these
> characteristic of Space is meanly determined from the external world,
> except for extreme cases like black bodies.*

>

Do you consider arbitrary to consider as the body set of some HIS only two particles, a proton and an electron? (Hydrogen atom model, N.Bohr, 1913). Do you consider arbitrary to consider the Solar System as a HIS? That some entity behaves as a unique one having a simple or complex internal structure is a common occurrence in Nature (atoms, molecules, planets, stars,...). That all in Nature is related with all can be a great true, but totally useless to know it. Any knowledge obtained by men is always a partial one. The HIS is a conceptual model entity that you can use to model any part of Nature. Fortunately Nature laws seems to be the same in any HIS (PoR). That makes possible to know Nature without the huge problem to take into account the effect of all the rest of Universe in some part of it. In my HIS approach a light ray will have always a definite set of bodies with respect to move with some velocity.

> > >

> > > *You see, you shouldn't worry about what you know that is contained*

> > > *in the frame but you should worry about what is unknown and you frame*

> > > *should be capable to contain that unknown and be compatible with it.*

> > >

> > *My HIS separate a determined body set from the rest of the Universe.*

> > *The scope of the HIS is limited to describe those bodies (in an*

> > *increasing hierarchy Earth–Moon, Solar System, Galaxy, etc.). A body*

> > *not took into account when calculating the center of mass simply do*

> > *not exist in the model. I distinguish an interior from an exterior. I*

> > *assume the exterior cannot influence interior relations. You can*

> > *visualize that considering the exterior provoking an equal*

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> > *acceleration to all the bodies of an associated set (remember
> > Einstein's free falling elevator?). Another example, we here in the
> > Earth do not feel the acceleration owed to the Sun. For many Earth
> > affairs the Sun does not exist, like in GPS calculations. The PoR
> > state the compatibility with the known or unknown exterior world. The
> > low hierarchy HIS represents a single body in a higher hierarchy HIS,
> > with the same Physics laws applying. The PoR determines the
> > possibility that any civilization can know the Universe starting in
> > any place of it. Putting the "center" from Earth to Sun was simply a
> > step going up in the hierarchy of HIS. Now we are putting attention to
> > the black hole in the center of the Galaxy.*

>
> *This is a heuristic approach that is meant to overcome the difficulties
> to take the entire universe into account at once.*

>
> *But what is difficult to us nature just do it. Holism is defined as a
> emerging of higher properties out of a set of lower relations;
> in nature Holism works in all directions from high to low levels,
> and from low to high levels.*

>
> *The ether is a local immediate condensation of all the above, without us
> knowing anything about the real nature of the ether, only we know
> (have hints of) that anything that is happening here, now is affected
> and determined by the entire universe, and the ether is the local
> intermediary.*

>
I accept your right to make any kind of hypothesis in the effort to know Nature. Following the scientific method, experimental evidence is the filter to accept or refuse the freely created theories. You can find in Physics history more than one fluid conceived to explain some kind of phenomena. The "flogist" and the "caloric" are two unsuccessful ones, created the first to explain oxygen interactions before the oxygen atom discovery, and created the second to explain the movement of heat before the knowledge that heat is in itself "movement". I consider the aether in the same group of the flogist and the caloric, created in order to explain the nature of light before the knowledge about light as photons with similar attributes as others particles.

> > > *That is what the ether does. It acts locally but it is determined from
> the*

> > > *action of the masses of the entire universe, so the ether is fit to
> contain*

> > > *all possible objects, without changing much locally.*

> > >

> > *The "entire Universe" is a too complex concept. I can run indefinitely*

> > *up with my hierarchy of HIS without the need to manage that huge*

> > *problem. I do not reject the possibility that the hierarchy end in*

> > *some place (reaching perhaps the aether!), but I am not really worried*

> > *about it, I consider this out from my model.*

> > > *We have never two equal hierarchy HIS competing to*

> > > *describe the same body. All SR paradoxes disappear when we put the*

- > *real*
- > > > *bodies in the scene, without the need to introduce any universal*
- > > > *aether.*
- > > >
- > > > *If you think there is not a ether, then SR have no paradoxes, I arranged*
- > *a*
- > > > *way to reproduce all the SR figures and affects and reciprocities in*
- > > > *the ether (on paper).*
- > > >
- > > *All the time persons are discussing in this group about SR paradoxes*
- > > *without mentioning the aether.*
- >
- > *The SR paradoxes are ruled out by the fact that SR doesn't deal with*
- > *absolute values. The paradoxes arise by the attempt of many to force*
- > *SR to predict the absolutes, that, of course, is not possible.*
- >

I have a different view about what causes paradoxes in SR. For me the original sin is the separation of space and time from the bodies (that starts since Newton already). Einstein did the same, conceiving the infinite equivalent inertial frames, able each one to describe the Universe. In my approach the bodies themselves determine the UNIQUE inertial frame that can be used to describe them, contributing each one to the collective center of mass that fixed what the rest is. A hierarchical rest, only valid for a specific body set. But this body set can be as great as you want, having always the possibility to model any part of the Universe as human knowledge grows. I refuse to admit the dilemma "absolute" or "relative". I substitute it by an infinite "hierarchy", that you can view as a "relative absolute", being every time more "absolute" and less "relative" as you goes up with the hierarchy describing a more large part of the Universe.

- > > *Of course, I know that aetherists like*
- > > *you try to resolve them considering its existence. My way is reject*
- > > *the symmetry and reciprocity of SR frames substituting them with a*
- > > *hierarchy of HIS*
- > > > *Conclusion: SR is fully embedded in the ether, the ether SR denial is*
- > > > *this a*
- > > > *true paradox: without the ether SR predictions would be impossible.*
- > > >
- > > *Length contraction and clock delay can be explained by physical*
- > > *changes in the interacting bodies taking into account the mass–energy*
- > > *relationship discovered by Einstein based in the PoR. Take a look at*
- > > *the GPS. The clocks delay can be predicted with extraordinary*
- > > *precision and used in the real life. The delay between clocks is NOT*
- > > *dependent on their relative velocities, but on their individual*
- > > *velocities and positions in a preferred inertial frame, the center of*
- > > *mass one of the bodies involved.*
- >
- > *I am afraid you are managing to adapt a SR like approach to a set of bodies*
- > *whose center of mass is acting as reference system, it is going to work*
- > *approximately correctly for the same reasons that SR predictions are*

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- > *practically correct: you could put at center of mass of your set of*
- > *bodies the ether and it would just work fine, because the ether,*
- > *for all the speeds associated to Earth movements is a "flat*
- > *valley" of local speeds averaging from $+0.001 C$ to $-0.001 C$ introducing*
- > *a "error" of $0.001^2 = 0.000001$ at the worst cases.*

>

If the aether exist you must put it in the set of bodies as any other entity.

- > *Your approach is correct only if you limit it to local "collision like"*
- > *interactions, otherwise it would contain the same conceptual errors as SR.*

>

- > *Here the ether option doesn't solve or add anything: it just points out a*
- > *simpler approach that saves the main route from the heuristic tactics to*
- > *solve the minor relativistic problems.*

>

Until now I do not need any aether. If you conceive it as an infinite continuous body, this is a problem for my HIS approach, not an aid.

Can you give me some details about how you conceive the aether? Finite or infinite? Mass? Energy? Some structure?

- >>> *Now that I realized the perfect consistency of the SR machinery in the*
- > *ether*

- >>> *I am even more convinced that the SR Space–Time is not only wrong but*
- >>> *also completely useless being SR possibly be fabricated in the ether.*

>>>

- >> *I am reaching your same conclusion about the SR Space–Time, but*
- >> *without any aether (do not forget that I am exploring the original*
- >> *1905 Relativity before Minkowski). Apparently the bad move was to put*
- >> *out all the bodies (with their masses and other attributes),*
- >> *considering only the space and time as having an independent*
- >> *existence. SR frame equivalence (together with symmetry and*
- >> *reciprocity) was the result, the wrong result. Every frame is*
- >> *different, even if Physics laws are the same in all of them, the*
- >> *associated body set is what make different every HIS.*

>

- > *O.K if you limit this to "collision like" interactions, from a lowest HIS*
- > *to a higher and higher HIS there is not a hierarchy of absolute nature,*
- > *but a hierarchy of a relativistic interactions, you cannot grasp the whole*
- > *at once, you can only know why you cannot do it, then to resort to a*
- > *heuristic approach is correct, but only if you consider this approach*
- > *just what it is: heuristic.*

>

I follow the scientific method. I create the model that I want without any limitation. The confrontation with the real world determine in what extend the created model is useful or not to describe Nature. The GPS is just now my best argument to support my HIS approach.

- > *I surely said more that my means should allow me to do, so be tolerant.*

>

> *best regards*

>

> *beda pietanza*

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>
>>> *Please read two of my post " Ether-SR ruler's hidden lengths" and*
>>> *"Ether-SR clock's hidden time rates" let me know what you think.*
>>>
>> *Let me see what I have to say about them.*
>>> *thanks*
>>>
>>> *best regards*
>>>
>>> *beda pietanza*
>>>>
>>>> *RVHG*
>>>>
>> *RVHG*
RVHG