

On the Twin Paradox and Ether

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Abstract

In this letter the argument which favors ether solution on the well known twin paradox has been addressed. By putting twin paradox in the comoving frame of cosmic fluid of FLRW metric, the interesting conclusions emerge. Earth twin corresponds to the twin comoving with cosmic fluid. Travelling twin by employing clock retardation to Universe time puts himself forward in time than the rest of Universe. By changing to other reference frame of the trip he will now be backward in regards to comoving cosmic fluid time (the plane jump). Like plane of simultaneity mentioned in the reference [1] he travels forward and then jumps backward in time comparing to comoving cosmic fluid frame. How much of the dynamics of GR is needed for the Universe to reach the same forward traveler's point in time, comparing to the one simple relativity change of traveler perspective? The last also applies to the twins' reciprocal time dilation in the GR's conventional interpretation of twin paradox i.e. in the solution by employing equivalence principle where travelling twin also puts himself ahead in time before turnaround. The absence of the aforementioned is the advantage of the Einstein's relativized ether interpretation of GR. Following the Lorentz-Poincaré track in twin paradox, the pair: time dilation and length contraction of travelling twin is actuality, so the twin does not go ahead of cosmic time during entire trip. Proper time of Lorentz/Poincaré's travelling twin is less than the maximal proper time of comoving cosmic fluid along the entire trip, which is in accordance with the results of authors [2].

Keywords: Twin paradox; Reciprocal time dilation; Ether; Proper time; Solution

Explanation

To depict how SR's solution of the twin paradox has problems by employing the plane of simultaneity and the reciprocal time dilation, just put twin paradox experiment in the comoving frame of cosmic fluid of FLRW metric. Imagine the balloon analogy. Earth twin corresponds to the twin comoving with cosmic fluid. Traveling twin by employing clock retardation to Universe time puts himself forward in time than the rest of the Universe. By changing to another reference frame of the trip he will now be backward in regards to comoving cosmic fluid time (the plane jump). Like plane of simultaneity mentioned in the reference [1], he travels forward and then jumps backward in time comparing to comoving cosmic fluid frame! How much of the dynamics of GR is needed for the Universe to reach the same forward traveler's point in time, comparing to the one simple relativity change of traveler perspective? The last also applies to the twins' reciprocal time dilation in the GR's conventional interpretation of twin paradox i.e. in the solution by employing equivalence principle where traveling twin also puts himself ahead in time before the turnaround. The absence of the aforementioned is the advantage of Einstein's relativized ether interpretation of GR. Following the Lorentz-Poincaré track in twin paradox, the pair: time dilation and length contraction of traveling twin is actuality, so, the twin does not go ahead of cosmic time during the entire trip. Proper time of

Lorentz/Poincaré's traveling twin is less than the maximal proper time of comoving cosmic fluid along the entire trip, which is in accordance with the results of authors [2].

We should recall the words:

"What is fundamentally new in the ether of the general theory of relativity as opposed to the ether of Lorentz consists in this, that the state of the former is at every place determined by connections with the matter and the state of the ether in neighbouring places, which are amenable to law in the form of differential equations; whereas the state of the Lorentzian ether in the absence of electromagnetic fields is conditioned by nothing outside itself, and is everywhere the same. The ether of the general theory of relativity is transmuted conceptually into the ether of Lorentz if we substitute constants for the functions of space which describe the former, disregarding the causes which condition its state. Thus we may also say, I think, that the ether of the general theory of relativity is the outcome of the Lorentzian ether, through relativization"[3].

The same is applicable to the Universe not just in places/space, but in the time as well [4].

References

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