If Rest Is Impossible, then the Speed Must Not Depend on the Observer

Cavași Ioan Abel

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Abstract

Only regular curves have a well-defined curvature. As the rest implies the appearance of singular points, it results that in the rest the curvature is indefinite. So rest is impossible. Due to the fact that rest is impossible, it follows that the speed must be independent of the observer. I have already argued on several occasions why rest is impossible. I remind you of these arguments in more detail now, and I will draw clearer conclusions from them.

The rest is impossible

It is a *mathematical certainty* that the value of the curvature of a curve makes sense only for regular curves, i.e., for curves whose "velocity" (prime derivative) is non-zero. When the speed is canceled, the curvature becomes nonsense and can no longer be determined. Therefore, the curvature of the trajectory of a body that stops moving becomes indefinite.

Due to this strangeness of rest, Helical Physics postulates that rest is impossible, arguing that nature does not waste any information in this way, ie does not allow in any way the transition from definite curvature to indefinite curvature. *There is no motivation* for nature to allow the transition from the cognoscibility of a physical quantity (the curvature or torsion of the trajectory) to its uncognoscibility.

Conclusions:

The speed of bodies is invariant

Then this impossibility of rest must be *universal*! In other words, *no observer in the Universe should ever be able to observe rest*, because if there were at least one observer for whom a body could come to rest, then this observer would thus be a privileged observer in the Universe, a status that would contravene all the universal laws of nature, for example, would contradict the definition itself of the observer and its universality, compromising the laws that allow the correct transfer of information (about curvature, in our example) from one observer to another. And if no observer in the Universe must never be able to observe rest, it means that the *value itself of the speed* of all bodies in the Universe must be *independent of the observer*. Because, if the speed of bodies would depend on the observer, then we could seek and find a privileged observer to which certain bodies would come to rest, which would be contrary to the laws of nature, as we have shown.

Thus, if the velocity of bodies must have the same value as any observer, then this velocity could not be other than *the speed of light in a vacuum*, being the only known universal constant with

the dimensions of a velocity. Thus, we can now say that *the postulate ofthe constancy of the speed of light in the theory of relativity has received a profound demonstration*.

There is another an invariant physical quantity

Of course, if, as we have seen, rest is impossible for well-founded reasons, then for the same well-founded reasons *it is also impossible the rectilinear motion*, the *torsion* of which is also indefinite. And as the impossibility of rest implies the universality of velocity (hence the modulus of the first derivative), so the impossibility of rectilinear motion must also imply *the universality of another physical quantity*, whose identity we will establish through further research (probable, it could be about the second derivatives).