

Translation into English: [Chapter 2 - Catalogue of Errors for Both Theories of Relativity](#)

from the German documentation of G.O. Mueller

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## B: Light / Error No. 3

### **The claim of a constant speed of light ( $c$ constant) requires measurement of the one-way speed of light, which has so far not proved possible**

*The claim of the constancy of the speed of light (constancy of  $c$ ) presents, by declaration, a basis of the theory (STR) that so far cannot be proven experimentally, not even in the earth's atmosphere, because it requires a measurement of the one-way speed of the light in different directions in space, that so far is not possible. A test in a vacuum is not as yet even an issue.*

*All reflections in the context of the STR since 1905 are therefore only based on the assumption of a constant average speed of a beam of light on the outbound and return journeys taken together. The decisive empirical discovery that the ray of light travels in both directions at the same speed - the one-way speed - is missing. The claim that  $c$  is a constant is therefore completely unfounded.*

*The much farther-reaching claim made by Albert Einstein as to an absolute constancy of  $c$ , namely that the same speed for  $c$  would even be measured by all randomly moving observers, is a different topic and implicates the principle of relativity (cf. error B 2).*

The measurement of the one-way speed would require a measurement (1) of the path travelled, and (2) of the time taken, this to be measured by two clocks, one at the start and one at the end of the path. Whereas the path measurement presents no problem, the time measurement leads to an augmentation circle, if a synchronization of the clocks is to take place by means of light signals, since for a flawless synchronization of the clocks by this method one would already have to have identified the one-way speed of the light, which the experiment involving the clocks is still seeking to prove. The linking of time measurement and the propagation of light, and the logical dependence of the one on the other must be avoided. A solution can only exist in a secure synchronization of distant clocks by another method than that of light signals.

The relativists have so far shown no signs of taking a real approach towards solving the problem of their claim. Most critics have no problem to solve here, since they do not believe in the dogma of the constancy of  $c$  anyway.

The following suggestions on how to synchronize without involving light signals have previously been made: a row of closely aligned clocks with "observers" who pass on the synchronization over a long distance; a mechanical coupling through a rotating axis; and a slower clock transport, in which case, according to the relativists, the transported clock would scarcely be slowed down. All ideas without a definitive result in the literature. The fast clock transport should, according to the STR, result in a slower pace in the moving clocks and would thereby disturb and revoke the synchronization. This effect of time dilation, however, is believed only by the relativists when they are in the world of the STR.

Here it is instructive to recall to mind the hierarchy of the overlapping motions in outer space: all places on the earth move, with the rotation of the earth, around the earth's axis, but also with the earth in the earth's orbit around the sun, and with the solar system within the spiral arm of our galaxy around the centre of the galaxy, and with our galaxy in our galactic cluster. At this point we will discontinue the consideration to ask ourselves where a "non-moving" clock might be found, that in the view of the relativists would not be "slowed down".

When the relativists enter the world of the GTR, the alleged constancy of  $c$  no longer exists and there is therefore no longer a need to prove it. If the critics seriously ask for proof of the claimed constancy of  $c$ , the relativists can always escape through the GTR mousehole. This is the clever world of relativity, well equipped with two opposing theories.

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