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Relativity and Absoluteness

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Abstract

Alternative interpretations are given to stellar aberration and Sagnac effect. These interpretations support an entrained ether.

Keywords

Sagnac effect, stellar aberration, special relativity.

Background

The theory of relativity is accepted by most scientists and most dissidents accept the autonomous ether. The entrained ether is advocated by few dissident dissidents and represents the third opinion. The entrained ether provides an absolute reference for the propagation of light, but contains in itself a kind of relativity due to a dependency on the distribution of matter. Instead of a preferred frame entrained ether has a preferred velocity field, $\mathbf{v}(\mathbf{r})$, that locally can be approximated by a frame.

Sagnac Effect

Sagnac effect has been derived by an integration of angular velocity, Ω, over an area, but *no rotation exists* in the area, A. Instead the equipment with the enclosing light path is moving in relation to the ether and all parts of it are translating. The expression $\Delta t \approx 2A\Omega/c^2$ should be substituted by $\Delta t \approx v_L L/c^2$, in agreement to Stokes' rule and geometrical relations. This expression represents an integration along a closed line implying a *translational* effect as a physical consequence. L can be the circumference of a circle *or* the length of a straight line with the ether-wind v_L in the direction of L. The Sagnac effect in the Global Positioning System has therefore relevance for the ether's state of motion and *supports an entrained ether.* The Sagnac effect *is* the ether-wind. The classification of Sagnac effect as rotational instead of as translational explains why we have many different failed attempts to explain the Sagnac effect.

Stellar Aberration

The ether-wind is a *translation* of a real thing, but wave velocity, **c**, is just a *behaviour* inside the ether. The ether-wind, **v(r),** can move the ether but not change its internal behaviour. The orientations of the wave-fronts can not be changed by addition of the same translation to all parts of a wave-front. This means that changes in the ether-wind has a one-dimensional effect on the wave motion and ether-wind inside the plane of the wave-front is irrelevant for wave motion. The orientation of the wave-fronts is therefore *conserved in relation to the ether-wind.* The speed of wave motion is therefore equal to $\mathbf{c}(1+v_L/c)$. Light can therefore propagate from an ether controlled by the Sun into an ether controlled by the Earth with conserved direction, and only speed is changed. This fact explains the extreme sharpness in images of fix stars. The entrained ether has therefore the same2 aberration as the autonomous ether and is *not refuted by stellar aberration.* Stellar aberration is caused by the telescope's motion in the time interval between focusing and detection of light. Without absolute reference we can not observe total aberration, but only the part of it caused by *changes* in telescope motion.

Michelson-Morley's Experiments

The most debated phenomenon, Michelson's experiment, is of low interest in relation to entrained ether. Accuracy is to low and perhaps the searched field effect between mirrors is compensated by the same effect in the relative positioning of the atoms. The wanted effect in *one two-way* communication can possibly be compensated by the same effect in *two one-way* communications controlling atomic separations.

Ether-wind detection

Instead of second order effect first order effect is possible to use by detecting Sagnac effect from the rotation of our planet in a laboratory. This method is described in an article to NPA 2009 called *The Forbidden Ether.*

Conclusions

The Sagnac effect is caused by *translational* motion in a light path (closed or not), and *supports* the entrained ether.

Since the ether-wind is irrelevant for wave-fronts' orientations stellar aberration *can not rule out the entrained ether.*

Although most debated, Michelson-Morley's experiments are of low interest for the entrained ether.

Reference

The Forbidden Ether is available at:
www.geocities.com/johnerikpersson
www.worldnpa.org
www.wbabin.net