

Light in vacuum behaves like sound in air

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Abstract- At least, that is the opinion of convinced supporters of the Special Theory of Relativity.

Generally accepted properties of sound

Sound has two fundamental properties: it doesn't propagate in vacuum and its propagation velocity, relative to a tangible medium, is determined by the properties of that medium and independent of the velocity, relative to that medium too, of its source.

STR properties of light

Light has, according to the Special Theory of Relativity, two fundamental properties: it propagates (as well in certain tangible mediums as) in vacuum and its propagation velocity in vacuum is c , independent of the velocity of its source.

More specific regarding the vacuum:

Light has, according to the Special Theory of Relativity, two fundamental properties: it propagates in vacuum and its propagation velocity, relative to that vacuum, is c , independent of the velocity, relative to that vacuum too, of its source.

So indeed, light in vacuum behaves exactly like sound in air, *ignoring that vacuum means "nothing"*.

Experiments that prove the correctness of these properties

Several experiments and measurements have been carried out, of which the results are used to claim the correctness of these properties.

A representative example is the observation of so-called (binary) pulsars.

Copied from Wikipedia:

"A pulsar is a neutron star that emits a beam of electromagnetic radiation. This radiation can be observed only when the beam of emission is pointing toward Earth (much the way a lighthouse can be seen only when the light is pointed in the direction of an observer), and is responsible for the pulsed appearance of emission."

The EM radiation seems to be noisy, so measuring any velocity by means of Doppler shifts is impossible. Only the time-spacings between the received pulses can be used. The parameters that have been determined are: the angular velocity of the spinning of the pulsar, the orbital velocity and radius of binary pulsars and the distance to earth.

N.B. The theoretical outcome of the time-spacings between the received pulses extremely depends on the chosen theoretical behaviour of light in vacuum.

The "scientific" work on pulsars, based on the STR, has been awarded with the Nobel Prize. To be qualified as "Nobel Prize for fun and fantasy".

The real property of light in vacuum is found in: <http://vixra.org/pdf/1611.0111v1.pdf>