

The reasons for the Michelson-Morley experiment

In the 19th century, in connection with the spread of the Fresnel theory of the wave properties of light, there was a need for experimental confirmation of the existence of a substance in which light propagates. To identify this fact, it was decided to use the fact of the motion of the Earth around the Sun through the alleged substance at a known speed. What is the mistake of this approach?

Firstly, it was not theoretically substantiated why the alleged ether is associated with the solar system, in which the Earth's speed is 30 km / s, and not with the galaxy, where the Earth moves at a speed of 200 km / s. Secondly, at that time, for some unknown reason, ether was considered to be a weightless substance, although even I. Newton in his "Mathematical Principles of Natural Philosophy" argued that gravitational interaction through a weightless ether is impossible. But, since the gravitational interaction exists, and the agent of this interaction is ether, and there can be no agent, since the long-range principle is not justified by any arguments, it follows from Newton's statement that ether has weight, that is, it has density. From all of the above, it follows that a weighty ether surrounding the Earth should create an ethereal atmosphere around the planet, which the ether wind created by the Earth's movement should not overcome, and therefore the Michelson-Morley experiment on the Earth's surface could not detect this ether wind.

Thus, the Michelson-Morley experiment is irrelevant, its implementation is unfounded, and its results are insignificant.

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