

# Explain the phenomenon of neutrino superluminal

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**Abstract:** An interesting experimental phenomenon attracted the whole world's attention. European researchers found that the neutrinos traveled faster than the speed of light, which was difficult to explain. This result was reported on the website of British "Nature" journal on September 22, 2011.

Meanwhile, many strange phenomena from the experiment of Foucault pendulum were found by us.

In 1921, Millar conducted an experiment and found that the light presented a drift motion relative to the earth by an amount of 10km/s.

These experiments implied that there existed another state substance in nature and it might account for the motion laws of all the objects.

In this paper, an objective interpretation for the superluminal phenomenon of neutrinos was presented, as well as a reasonable prediction for this kind of experiments.

**Keywords:** No-Shape-Substance    Neutrino    Superluminal    Translation  
Rotation    Millar experiment

European researchers found that the neutrinos traveled faster than the speed of light, which was difficult to explain. This result was reported on the website of British "Nature" journal on September 22, 2011.

CERN said a neutrino beam fired from a particle accelerator located at Geneva to a lab 454 miles (730 kilometers) away in Italy traveled 60 nanoseconds faster than the speed of light. Scientists calculated the margin of error at just 10 nanoseconds,

making the difference statistically significant. But given the enormous implications of the find, they still spent months checking and rechecking their results to make sure there were no flaws in the experiment.

"We have not found any instrumental effect that could explain the result of the measurement," said Antonio Ereditato, a physicist at the University of Bern, Switzerland, who was involved in the experiment known as OPERA <sup>[1]</sup>.

We believe that there exists a lot of another state of matter in nature, which may account for the motion laws of all the objects. The Earth is not likely to bring completely the No-Shape-Substance on the earth's surface, when the earth is translational motion. So, the No-Shape-Substance on the earth's surface has certain velocity relative to the earth's surface and its direction is opposite to the movement direction of the earth <sup>[2, 3]</sup>.

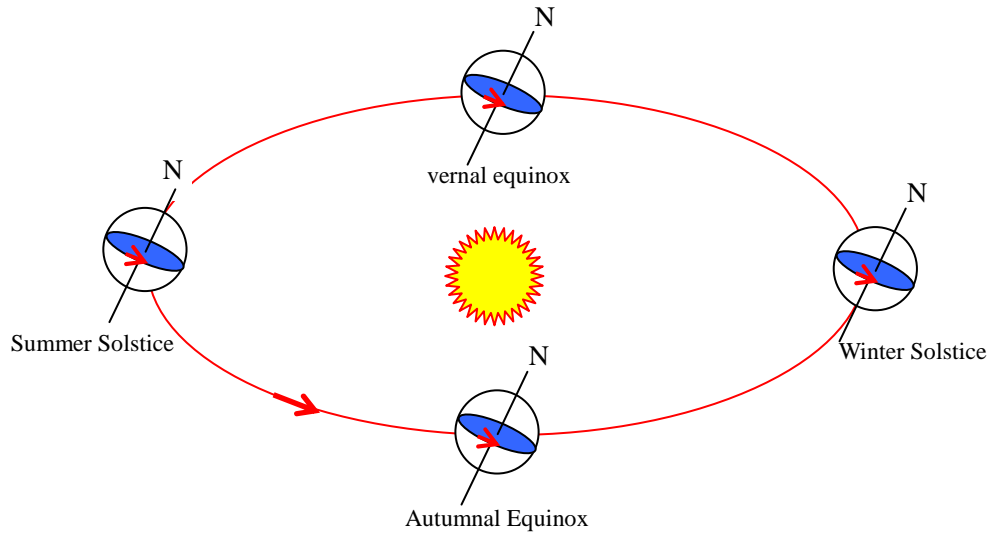
But when the Earth rotates, it is not easier to bring completely No-Shape-Substance on the earth's surface and therefore the No-Shape-Substance on the earth's surface has also certain velocity relative to the earth's surface. The linear velocity of the earth's equator is about 463.8m/s. The average latitude from Geneva to Rome is about 44 degree. The average linear velocity of the earth surface between Geneva and Rome is about 333.6m/s. If the rotation of the earth doesn't drive the No-Shape-Substance, the velocity of No-Shape-Substance relative to the earth surface is 333.6m/s.

The results of neutrino superluminal experiment shown that the speed of neutrino was faster than that of light by 6000m/s. It is thus clear that the main impact factor is the translational motion of the earth, not rotation.

The translational velocity of the earth is approximate 30000m/s. It indicates that the translational motion of the earth brings the No-Shape-Substance on the earth's surface partly.

How was the motion direction of No-Shape-Substance relative to the earth surface when the earth made a translational motion?

As shown in Fig.1, it is easy to understand that the motion direction of No-Shape-Substance relative to the earth surface is from northwest to southeast in the daytime of the Autumnal Equinox. (The largest deflection from northwest to southeast is about  $23^{\circ}26'$  when the influence of rotation is neglected.) However, the motion direction of No-Shape-Substance relative to the earth surface is from northeast to southwest in the night.



**Fig.1 Schematic diagram of the Earth rotating around the sun**

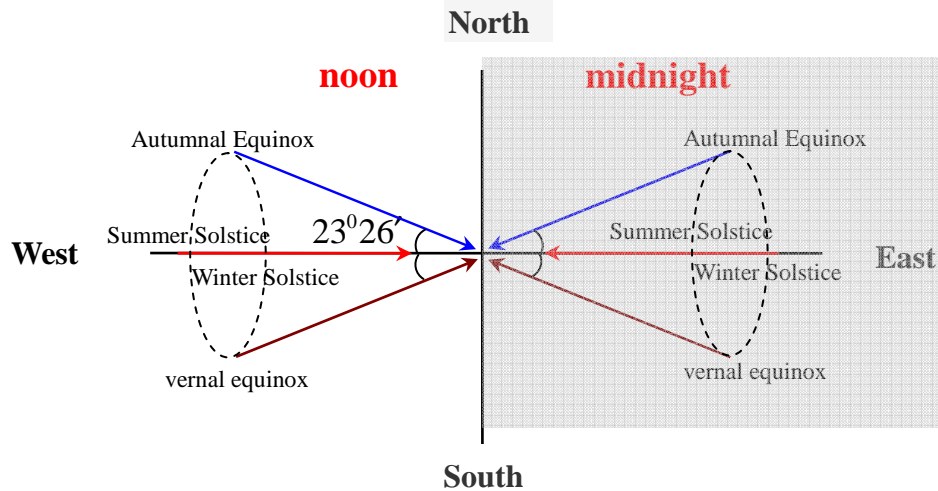
In the daytime of the vernal equinox, the motion direction of No-Shape-Substance relative to the earth surface is from southwest to northeast. However, the motion direction of No-Shape-Substance relative to the earth surface is from southeast to northwest in the night.

The motion direction of No-Shape-Substance relative to the earth surface is from west to east in the daytime of the Summer Solstice and the Winter Solstice, while the motion direction of No-Shape-Substance relative to the earth surface is from east to west in the night.

As shown in Fig.2, this figure is a schematic diagram for the motion direction of No-Shape-Substance relative to the earth surface in the daytime and night of different seasons.

The neutrino beam source of CERN was located at Geneva and the receiver is the National Institute of Nuclear Physics, Rome, Italy.

The neutrino traveled in the direction from northwest to southeast. The motion direction of No-Shape-Substance relative to the earth surface is just the same with that of the neutrino in the daytime recent months. Therefore, the value of neutrino velocity exceeds the speed of light due to the driving of No-Shape-Substance.



**Fig.2 Schematic diagram for the motion direction of No-Shape-Substance relative to the earth surface**

However, the motion direction of No-Shape-Substance relative to the earth surface is in the direction from northeast to southwest in the night in recent days (near the Autumnal Equinox), especially midnight. The velocity of neutrino will not exceed the speed of light if measuring it now.

However, the motion direction of No-Shape-Substance relative to the earth surface is in the direction from southeast to northwest in the night of the vernal equinox. At the moment, the velocity of neutrino will not exceed the speed of light because the motion of neutrino was impeded by the No-Shape-Substance.

The same experiments for the motion of neutrino from Geneva to Rome were conducted at noon and midnight in the same day and the results would be significantly different. We hope that European researchers may carry out lots of comparative experiments and hope that the experimenters consider well the angle and the time of emission.

**We can do comparison experiments to measure neutrino run-time during**

**the day and night.**

**Comparative experiments have several advantages:**

1, Neutrino has exactly the same distance to go during the day and night.

2, The clock error will be fully offset, and will not have any impact on the measurement results.

For example, we assume that the time of clock 2 is faster than the clock 1 of 3 ns. Neutrinos from 1-2 with a time of 50 ns in the daytime, we measured the time of 53 ns; If the neutrino from 1-2 with a time of 70 ns in the evening, we measured the time of 73 ns.

—— We measured the time difference is still **More** at night than during the day and 20 ns.

3, The response time of the impact will be fully offset.

If the clock 1, clock 2 have different response time, and the Experiment is identical during the day and night. But we are comparing the time difference, so the impact of response time can be offset.

If the large number of neutrino experiments reflect time consuming are different, neutrino run-time at night is more than during the day, which is more fully explained the problem irrefutably.

### **[Michelson-Morley experiment]**

Are the experimental phenomena of neutrino superluminal contradictory with the results of Michelson-Morley experiment?

For the Michelson-Morley experiment, it would like to reveal the impact of global translation. The relationship of both the changes of the stripes number  $\Delta N$  and speed of "Ether" (No-Shape-Substance) relative to the surface  $v$  is described as,

$$\Delta N = \frac{2l}{\lambda} \frac{v^2}{c^2}$$

For the  $v = 30000$  m/s, the moving stripes number  $\Delta N = 0.37$  can observe.

Note: The change of number of stripes is proportional to  $v^2$ . When the speed is one sixth of that above, the change of stripes number is one thirty-sixth of that above. If the  $v = 5000$  m/s, the moving stripes number  $\Delta N = 0.01$  can observe.

Michelson and Morley draw the conclusion as follows:

Even if the relative velocity exists between the earth and Ether, the velocity would not exceed one-fourth of orbital velocity of the earth <sup>[4]</sup>. The value of one-fourth of orbital velocity of the earth is about 7500m/s. The experimental results of neutrino superluminal are less than one-fourth of orbital velocity of the earth. So, the experimental results of neutrino superluminal are not contradictory with those of Michelson-Morley experiment.

### **[Millar experiment]**

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*From the year of 1902 to 1904, Millar and Morley repeated the Michelson-Morley experiment with better instruments. The result of their experiment was closer to zero than what was got by Michelson and Morley in 1887.*

*Later on, Millar obtained different result when conducted the experiment rather than the space of the earth surface.*

*In 1921, Millar repeated this experiment on Mount Wilson by using the same methods as before. As a result, a positive effect of 10km/s was found, which means light speed deviated by an amount of 10km/s.*

*In order to validate this point, he took many measures, including replacing*

*ferromagnetic materials, substituting cement for the steel frame, substituting copper and aluminum for steel, separating the light source to avoid the change of temperature, adopting many different light sources, even heating up an electric cooker to test the influence of temperature...*

*At last, Millar came to the exact conclusion that light is drifting at a speed of 10km/s relative to the earth.*

*From the above, it can be said that the principle of constancy of light is denied by this experiment straightly. [5]*

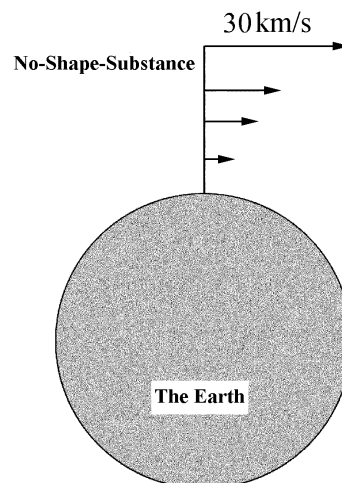
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Well, how should we explain the experimental positive result?

Shown in Fig. 3, we have analyzed previously The Earth is not likely to bring completely the No-Shape-Substance on the earth's surface, when the earth is translational movement.

The Earth is also not likely to bring completely the No-Shape-Substance on the high mountain, when the earth is translational movement.

That means on the high mountain the No-Shape-Substance has higher speed relative to the earth. Therefore when we conducted the Michelson-Morley experiment there, the interference fringes would produce the speed deviation.



**Fig. 3 the velocity distribution of the No-Shape-Substance relative to the earth**

### **[The strange phenomena of Foucault pendulum]**

Many strange phenomena from the experiment of Foucault pendulum were found by us. When the pendulum bob swings along the north-south direction, the angular speed of the oscillation plane of Foucault pendulum is higher, while the angular speed

of the oscillation plane of Foucault pendulum is almost unchanged when the pendulum bob swings along the east-west direction. Furthermore, when the pendulum bob swings along the north-south direction, the oscillation orientation rotated clockwise; when the pendulum bob swings along the east-west direction, the oscillation plane is almost unchanged or even rotated counterclockwise slightly. The experimental phenomenon is in contradiction with the classical theory.

The peculiar phenomenon of Foucault pendulum experiment is caused by rotation of the earth itself. When the earth rotates, there is the speed difference between No-Shape-Substance and each point on the earth's surface, and the value of every speed difference is not equal, which will bring the Foucault pendulum ball swing peculiarly.

The results from the the neutrino superluminal experiment, Millar experiment and Foucault pendulum experiment are credible. Those results reveal that there exists another state of matter in nature and it might account for the motion laws of all the objects.

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