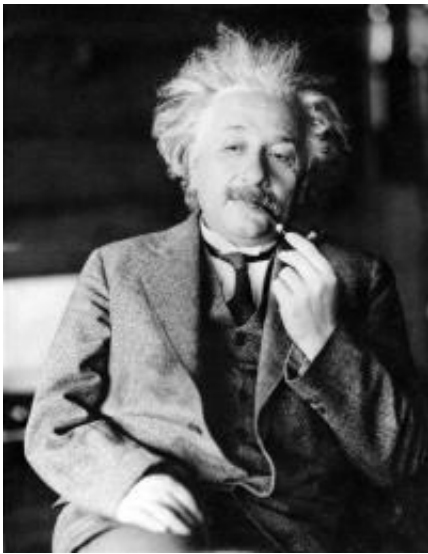


Physicists wary of junking light speed limit yet

September 23 2011, By FRANK JORDANS , Associated Press



This undated file photo shows famed physicist Albert Einstein. Scientists at the European Organization for Nuclear Research, or CERN, the world's largest physics lab, say they have clocked subatomic particles, called neutrinos, traveling faster than light, a feat that, if true, would break a fundamental pillar of science, the idea that nothing is supposed to move faster than light, at least according to Einstein's special theory of relativity: The famous $E = mc^2$ equation. That stands for energy equals mass times the speed of light squared. The readings have so astounded researchers that they are asking others to independently verify the measurements before claiming an actual discovery. (AP Photo)

(AP) -- Physicists on the team that measured particles traveling faster than light said Friday they were as surprised as their skeptics about the

results, which appear to violate the laws of nature as we know them.

Hundreds of scientists packed an auditorium at one of the world's foremost laboratories on the Swiss-French border to hear how a [subatomic particle](#), the neutrino, was found to have outrun [light](#) and confounded the theories of [Albert Einstein](#).

"To our great surprise we found an anomaly," said Antonio Ereditato, who participated in the experiment and speaks on behalf of the team.

An anomaly is a mild way of putting it.

Going faster than light is something that is just not supposed to happen, according to Einstein's 1905 [special theory of relativity](#). The speed of light - 186,282 miles per second (299,792 kilometers per second) - has long been considered a cosmic speed limit.

The team - a collaboration between France's National Institute for Nuclear and Particle Physics Research and Italy's Gran Sasso National Laboratory - fired a [neutrino beam](#) 454 miles (730 kilometers) underground from Geneva to Italy.

They found it traveled 60 nanoseconds faster than light. That's sixty billionth of a second, a time no human brain could register.

"You could say it's peanuts, but it's not. It's something that we can measure rather accurately with a small uncertainty," Ereditato told The Associated Press.

If the experiment is independently repeated - most likely by teams in the United States or Japan - then it would require a fundamental rethink of [modern physics](#).

"Everybody knows that the speed limit is c , the [speed of light](#). And if you find some matter particle such as the neutrino going faster than light, this is something which immediately shocks everybody, including us," said Ereditato, a researcher at the University of Bern, Switzerland.

Physicists not involved in the experiment have been understandably skeptical.

Alvaro De Rujula, a theoretical physicist at CERN, the European Organization for Nuclear Research outside Geneva from where the neutron beam was fired, said he blamed the readings on a so-far undetected human error.

If not, and it's a big if, the door would be opened to some wild possibilities.

The average person, said De Rujula, "could, in principle, travel to the past and kill their mother before they were born."

But Ereditato and his team are wary of letting such science fiction story lines keep them up at night.

"We will continue our studies and we will wait patiently for the confirmation," he told the AP. "Everybody is free to do what they want: to think, to claim, to dream."

He added: "I'm not going to tell you my dreams."

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