

For immediate release
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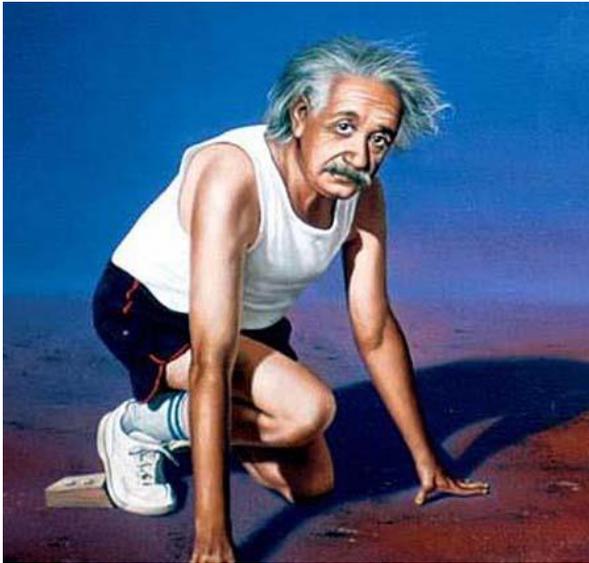


Physicist Predicts that faster-than-light neutrinos will be found in 2019

The possibility of speeds faster than light was ruled out by Albert Einstein in his original paper on relativity. Despite Einstein's assertion, George Sudarshan and colleagues O.M.P. Bilaniuk and V. K. Deshpande showed in 1962 how faster-than-light particles now called [tachyons](#) might exist based on an extension of Einstein's theory. Without any sighting of such beasts in over half a century, most physicists are extremely skeptical, especially after a retracted claim by a CERN group in 2011. Now an experiment at the Karlsruhe Institute of Technology in Germany known as [KATRIN](#) may give a definitive result when it starts taking data next month to measure the mass of the antineutrino with ten times the accuracy of previous experiments. If they find an imaginary value for the mass, or a negative value for its square, that would indicate the antineutrino is a faster-than-light tachyon. An imaginary mass is nonsensical for objects that can be put on a scale, but for antineutrinos their mass is found indirectly by counting the numbers of electrons emitted with different energies in nuclear beta decay – a process in which an antineutrino is also emitted. Nearly all physicists expect the experiment to find a mass less than four millionths that of the electron based on previous results. But Robert Ehrlich, a retired physics and astronomy department chair from George Mason University, who is not associated with KATRIN, believes they will find three specific larger masses, one of which is imaginary. The three masses, part of his unconventional neutrino model, should each create a distinctive feature in the electron spectrum, so if they are all observed there should be no doubt as to the model's validity.

Ehrlich first proposed his model in a 2013 paper, and more recently his [2019 paper](#) published in *Advances in Astronomy*, summarizes all the evidence since found in support of it. Confident that KATRIN will validate his model, Ehrlich has been writing a popular level book *"Hunting the Tachyon: How faster-than-light particles have been hiding in plain sight for 32 years."* Many neutrino experts have dismissed Ehrlich's work as coming from someone who sees tachyons wherever he looks. "Guilty as charged," he recently replied. "I have seen tachyons wherever I looked — because I looked for them exactly

where one would expect them if they really exist.” He goes on to note that: “A finding that one type of neutrino is a tachyon will require a radical revision in our understanding of both subatomic particle physics and cosmology. Some have suggested it even raises the possibility of using tachyons to [send messages back in time.](#)”



Left image: painting of Einstein by [Jim Warren](#) are used with permission. Right image shows the transport of the large electrostatic spectrometer, which is the heart of the KATRIN experiment, through the town of Leopoldshafen, en route to KIT, <https://www.katrin.kit.edu/213.php>