

On the Abraham-Minkowski controversy: Can the time delay of the gamma-ray bursts travelling through interstellar space be explained without invoking the Lorentz-invariance violation?

Tuesday, 28 July 2020 17:40 (25 minutes)

The ANTARES neutrino telescope and other experiments are searching for more detailed information on the previously observed shifted high-energy neutrinos from the gamma-ray bursts travelling through interstellar space. Many theoretical models have been proposed to explain this phenomenon, based on assuming the Lorentz-invariance violation. In this talk I shall show that the dispersion phenomenon of gamma-ray in an interstellar space considered as a cosmic plasma can explain this effect. This in turn indicates that invoking the drastic assumption of Lorentz-invariance violation for such a problem can be premature.

I read the instructions

Secondary track (number)

10.

Primary author: Prof. CHAICHIAN, Masud (University of Helsinki)

Co-authors: Prof. BREVIK, Iver (Norwegian University of Science and Technology, N-7491 Trondheim, Norway); Prof. COTAESCU, Ion (West University of Timisoara, Romania)

Presenter: Prof. CHAICHIAN, Masud (University of Helsinki)

Session Classification: Astro-particle Physics and Cosmology

Track Classification: 08. Astro-particle Physics and Cosmology