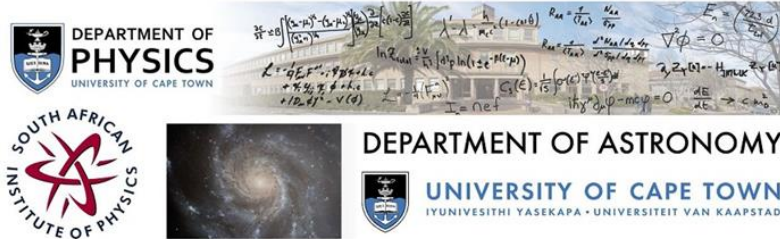


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Contribution ID : 284

Constraining Lorentz Invariance violation using directional correlations of Gamma-Ray Bursts with IceCube cosmic neutrinos

Wednesday 06 Jul 2016 at 15:20 (00h20')

Abstract :

A violation in Lorentz invariance (LI) proposed in quantum gravity theories, delays the flight of extremely high energy gamma rays and neutrinos from their origin. Gamma raybursts (GRBs) are among the most promising candidate sources of extremely energetic gamma rays and neutrinos. With the recent discovery of astrophysical neutrino events by the IceCube observatory, a path is opened to search LI at PeV energies. We use directional correlations of IceCube neutrino events and GRBs to constrain the LIV parameters at PeV energies from the observed time delay between the prompt gamma-ray and the neutrino events.

Award :

No

Level :

N/A

Paper :

YES

Permission :

YES

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