

Intrinsic spectral timelags in blazar TeV flares

Tuesday, August 28, 2018 3:45 PM (0:20)

Abstract content

Studying the arrival times of γ -ray photons according to their energy puts constraints fundamental physics such as Lorentz Invariance Violation (LIV) signatures but can also provide specific information about the emitting sources themselves. Observing the time evolution of AGN spectra can significantly constrain *in situ* physical parameters and radiative processes at work.

A synchrotron-self Compton (SSC) time dependent model of blazar flares, built to analyse intrinsic time delays at γ -ray energies above 1 MeV, is used to produce light curves in different energy bands and to perform a dedicated study on each model parameter to evaluate their influence on the delay. The energy dependence of time delays which is obtained for standard cases can be of importance. Indeed, lags could potentially be detected by current instruments as well as by CTA in the coming years and could contribute to a better understanding of the source properties and radiative transfers. Moreover, the present upper limits found on LIV signatures can in fact be re-interpreted in terms of constraints put on blazars and flare scenarios.

Primary author(s) : Mr. PERENNES, Cédric (LPNHE - Paris)

Co-author(s) : Dr. BOLMONT, Julien (LPNHE - Paris); Dr. SOL, H el ene (LUTH)

Presenter(s) : Mr. PERENNES, C edric (LPNHE - Paris)

Session Classification : Poster Session and Coffee Break

Track Classification : Extragalactic