Contribution ID: **322** Type: **Poster**

Measure the weighted cross correlation between GeV and MeV fluxes of Blazars

Friday 16 April 2021 18:41 (3 minutes)

An active galactic nucleus with a relativistic jet pointing within 10o of the line of the sight of the earth is known as a Blazar. Normally a Blazar has two relativistic jets. These jets are linear features instigating very close to the super massive black hole (SMBH) at the center of an Active Galactic Nucleus (AGN). A broad region of energies consist in these jets from radio rays to gamma rays. Blazars emitting energies due to non-thermal processes called the inverse Compton Effect and Synchrotron radiation. The model for blazers were proposed in 1978 by Blandford and Rees. Even though it has taken almost 40 years still the model is incomplete. This research is an effort to complete the model of Blazars. In this research a weighted cross correlation was calculated using a python script. Mrk421 and Mrk501 was selected as sources for this research. Three day bin analysis has been used for 22 months. Data was taken for two energy ranges, 100MeV –1000MeV for MeV file and 1GeV to 100GeV for GeV file. Then weighted cross correlation was taken. As the results of this project two weighted cross correlation graphs were plotted. First graph was plotted to Mrk501 and second graph was plotted to Mrk421. Mrk501 was showed nothing but the plot of Mrk421 had a six day lag between GeV and MeV fluxes. There are three possibilities to explain this kind of lag. First one is there might be two different places for triggering MeV and GeV fluxes, second one is there might be different triggering mechanisms and the third one is the possibility of having Lorentz Invariant Violation (LIV).

Primary author: RANDU, Mithun

Presenter: RANDU, Mithun

Session Classification: AGN-3

Track Classification: AGN