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Long term variability of blazars in fermi era

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Abstract

Active galactic nuclei (AGN) is a small region at the centre of the galaxy characterized by very high luminosity. Galaxies with such an active center are called Active Galaxies. Blazars are the subclass of AGN having small or almost zero jet to line-of-sight angle. They are highly variable in a time period ranging from few hours, months or even years. They emit across the entire electromagnetic spectrum, especially in high energy. Majority of the identified γ-ray sources are a class of AGN, blazars. In order to understand the physics of these sources, one needs to observe them throughout the electromagnetic waveband, carefully study their broadband spectra and their time variability. Observational γ-ray astronomy got a major boost after the launch of Fermi Gamma-Ray Space Telescope (Fermi). Fermi together with other space based and ground based observatories provide a unique platform to study this class of AGNs. Though a significant amount of research is going on to understand the short term variability of blazars, due to the observational constrain, not much effort has been made to understand the long term variability. In this work we carried out a long term variability study of few Fermi blazars which is crucial to understand their physics.