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Multi-wavelength Variability and QPOs in Blazars

Dr. Alok C. Gupta (ARIES, INDIA)

X-ray timescales analysis and multi-wavelength correlated variability of blazars

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Dr. Alok C. Gupta obtained his PhD at Deen Dayal Upadhyay (DDU) Gorakhpur University, Gorakhpur, India. He had been a visiting faculty member at Yunnan Observatory, Kunming, and at Center for Astrophysics, Guangzhou University, China. He is currently a faculty member at Aryabhata Research Institute of observational sciences (ARIES), INDIA. Dr. Alok’s research interests include: Multi-Wavelength Variability of AGN (Blazars) on Diverse Timescales • Black Hole Mass and Spin in the Transient Universe • Ultra High Energy Cosmic Ray (UHECR) Emitting AGNs

Ms. Haritma Gaur is a PhD student working with Dr. A.C. Gupta at ARIES.

Abstract

Talk1 (40min): Blazars are a subclass of radio-loud AGN which consist of BL Lacs and FSRQs. These objects show flux and polarization variability on all possible time scales in the complete EM band. In the present talk, I will report the results of multi-wavelength variability and QPOs in blazars which we have reported in several papers in last 5 years. I will also discuss the possible mechanism of our findings.

Talk2 (20min): BL Lacs and FSRQs are clubbed together and known as blazars. They belong to radio-loud class of AGN and show flux and polarization variability across EM spectrum, emission being predominantly nonthermal and double humped SEDs. In my talk, I will report the results based on my Ph. D. thesis work e.g. X-ray IDV timescale determination from XMM-Newton data; optical flux and spectral variability and multi-band cross correlation analysis results of blazars.

