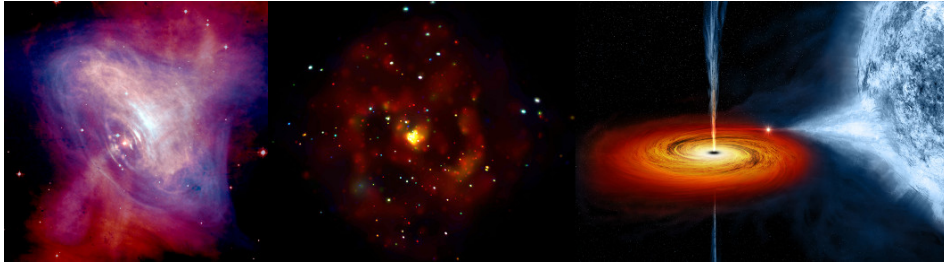


National conference on REcent Trends in the study of Compact Objects  
(RETCO-V): Theory and Observation



Contribution ID: 97

Type: not specified

## Correlation study of spectral parameters using simultaneous multi-wavelength observations of Mkn 501

We performed the soft and hard X-ray analysis of high energy peaked (HBL) blazar source Mkn 501 using Swift-XRT and NuSTAR observations. The simultaneous Swift-XRT and NuSTAR observations between 2013 and 2018 are taken in this study. In order to quantify the correlation between spectral parameters using different particle energy distribution models, we fit the spectrum with the log-parabola model, power-law particle distribution with maximum electron energy, and energy-dependent acceleration (EDA) models, respectively. It has been shown that the correlation obtained from a single short flare (~5-days) of Mkn 421, can be used to distinguish the spectrally degenerate models. In our work, we are trying to compare the correlation results using the long-term observations including high and low flux states of HBL Mkn 501, with the results obtained from short-term flare of HBL Mkn 421 (Hota et al. 2021). In addition, we have also performed analysis in the Ultra-violet (UV) band, where the data have been taken from Swift-UVOT and have fitted the multi-wavelength spectrum with the spectral models. However, we are looking for some data in gamma band from fermi-LAT to see how well the spectrum gets fitted with the convolution models.

### Presentation Type

Poster

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**Session Classification:** Posters

**Track Classification:** Posters