

Contributed Talk //

Active Galactic Nuclei (AGNs)



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Blazar polarimetry has proved invaluable for probing the magnetic field structures and underlying physical mechanisms in the most active regions in highly variable extragalactic sources. Blazars, a subclass of active galactic nuclei (AGN) with relativistic jets oriented close to our line of sight, have long intrigued astrophysicists due to their extreme luminosities, rapid variability, and pronounced polarization signatures. Recent developments in blazar polarimetry have shown how synthesizing observational data with theoretical predictions provides a holistic picture of blazar behavior.

Notably, the spectral energy distributions (SEDs) of some blazars reveal an ultraviolet (UV) and soft X-ray excess, often termed the 'Big Blue Bump' (BBB). Despite various radiation mechanisms proposed for the origin of the spectral feature, it has yet to be comprehensively examined and understood. The polarimetry of the BBB's emission may provide enhanced insights into the radiation mechanism of the jet in frequencies dominated by the BBB. This presentation will discuss the recent developments in blazar polarimetry and the promising horizons awaiting exploration.

We will focus on the unique insights of high-energy polarimetry on particle acceleration and radiation mechanisms in relativistic jets. Additionally, we will investigate the possibility of BBB in blazars serving as a promising area for further research.

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