

X-Ray and Gamma-Ray Spectropolarimetric Observations of Active Galactic Nuclei

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After discussing current, upcoming and proposed X-ray polarimetry missions, I will summarize some of the most exciting science questions that can be addressed with X-ray and gamma-ray polarimetric observations of various types of Active Galactic Nuclei (AGNs) including radio galaxies and blazars, nearby bright Seyfert galaxies, and distant, gravitationally lensed AGNs. Polarimetric X-ray observations of bright nearby Seyfert galaxies promise to give us new constraints on the shape, location, and physical properties of the X-ray bright coronas, and will allow us to test some of the assumptions entering the measurements of black hole spins. Imaging and non-imaging observations of radio galaxies and blazars will give us information about the magnetic field structure inside AGN jets and the mechanisms of particle acceleration. The observations of gravitationally lensed AGNs enable similar studies for more distant sources and offer additional diagnostics.