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X-ray polarimetry of extended sources with IXPE

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The launch of the NASA/ASI Imaging X-ray Polarimetry Explorer (IXPE) mission in Spring 2021 will open a new era of X-ray polarimetry, thanks to the imaging and polarimetric capabilities of the Gas Pixel Detectors.

The unique combination of imaging and polarimetric capabilities over the wide Field of View (8 arcmin) will allow IXPE to investigate the polarimetric properties of complex fields and extended sources. These targets will be studied by means of position- and energy-dependent polarization maps that will clarify the emission processes and the role of the magnetic field structure on the cceleration process in the X-ray emitting region.

Here I will review the state of the art of the expected IXPE performance for the study of extended sources, discussing the results of simulations of the observation of representative targets such as the relativistic Jet of Centaurus A, the Tycho Supernova remnant and the Molecular Clouds in the Galactic center.

Topic

Future missions

Affiliation

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