

Looking at the X-ray sky with polarized lenses

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The Imaging X-ray Polarimetry Explorer (IXPE) is a joint NASA-ASI mission, launched on the 9th of December 2021 and entirely devoted to measuring the polarization of cosmic X-ray sources. Thanks to the innovative gas detectors positioned in the focal plane of its three, identical, X-ray telescopes, IXPE possesses the unprecedented capability of performing space, time and energy resolved polarimetry in the soft (2-8 keV) energy band. During its first months of operations in space, IXPE has observed a variety of targets from different classes of emitters, pushing forward our understanding of these systems in many respects: by mapping the direction and level of ordering of the magnetic field in Supernova Remnants and Pulsar Wind Nebulae; by revealing the geometry of binary systems with neutron stars or black holes; by discriminating between different emission models for the jet of Active Galactic Nuclei; by probing the physics of light propagation in the extremely magnetized atmosphere of isolated pulsars. The perspective for future observations are equally bright, as the instrument continues to operate flawlessly, keeping intact its potential for discoveries as new targets are being observed.

Track

Pulsars

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