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## **Photoelectric X-Ray Polarimetry with Gas Pixel Detectors**

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The Gas Pixel Detector, recently developed and continuously improved by Pisa INFN in collaboration with IASF-Roma of INAF, can visualize the tracks produced within a low Z gas by photoelectrons of few keV. By reconstructing the impact point and the original direction of the photoelectrons, the GPD can measure the linear polarization of X-rays, while preserving the information on the absorption point, the energy and the time of arrival of individual photons. Applied to X-ray Astrophysics, in the focus of grazing incidence telescopes, it can perform angular resolved polarimetry with a huge improvement of sensitivity, when compared with the conventional techniques of Bragg diffraction at 45 degrees and Compton scattering around 90 degrees. This configuration has been the basis of POLARIX and HXMT, two pathfinder missions, and was included in the baseline design of IXO, the very large X-ray telescope under study by NASA, ESA and JAXA.

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