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## Tracking detectors for X-rays

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X-rays are normally detected as single-hit energy deposits at their absorption point. A different technique, combining high efficiency photon to charge converters and fine-pitch, highly granular readout matrices of low-noise pixels with integrated smart amplifiers, can effectively track the low energy electrons resulting from the photon interaction, thus revealing details of the Compton scattering or the photo-electric absorption. Gas Pixel Detectors, which have enabled efficient polarimetry of soft X rays for the IXPE and Polarlight satellite missions are the first class of such devices. They are based on the XPOL custom readout ASIC built in CMOS technology coupled to a Gas Electron Multiplier for amplification of the primary photoelectrons generated in the gas. This talk reviews the concept underlying this method and its most promising implementations, starting from the advances offered by the latest generation of the XPOL chip.

### Eligibility for "Best presentation for young researcher" prize

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