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Instruments for focal plane X-ray polarimetry in the next decade

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The successful detection by the IXPE mission of X-ray polarization from tens of celestial sources belonging to different classes has opened a new window in X-ray astronomy. While an impressive number of scientific topics have already been tackled by IXPE, many of them would benefit from a new class of instrumentation which could be launched in a relatively short time-scale. In this contribution, we will present the development activities of a focal plane polarimeter which has the goal of extending the energy range of IXPE up to tens of keV with a better sensitivity and lower background. Our design is based on the use of multilayer mirrors and a stacked instrumentation, comprising of either a low or medium energy imaging photoelectric polarimeter and an active Compton one. Such an approach is based on hardware with flight heritage, and, despite still in development for the specific application in the field of X-ray polarimetry, it promises to answer compelling scientific questions and to be soon competitive from the feasibility point of view for space application.

Eligibility for ”Best presentation for young researcher” or ”Best poster for young researcher” prize

No

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