Re-testing the JET-X Flight Module No. 2 at the PANTER facility

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Abstract The Joint European X-ray Telescope (JET-X) was the core instrument of the Russian Spectrum-\(X-\gamma\) space observatory. It consisted of two identical soft X-ray (0.3–10 keV) telescopes with focusing optical modules having a measured angular resolution of nearly 15 arcsec. Soon after the payload completion, the mission was cancelled and the two optical flight modules (FM) were brought to the Brera Astronomical Observatory where they had been manufactured. After 16 years of storage, we have utilized the JET-X FM2 to test at the PANTER X-ray facility a prototype of a novel X-ray polarimetric telescope, using a Gas Pixel Detector (GPD) with polarimetric capabilities in the focal plane of the FM2. The GPD was developed by a collaboration between INFN-Pisa and INAF-IAPS. In the first phase of the test campaign, we have re-tested the FM2 at PANTER to have an up-to-date characterization in terms of angular resolution and effective area, while in the second part of the test the GPD has been placed in the focal plane of the FM2. In this paper we report the results of the tests of the sole FM2, using an unpolarized X-ray source, comparing the results with the calibration done in 1996.

Keywords JET-X · PANTER · Flight module · X-ray tests