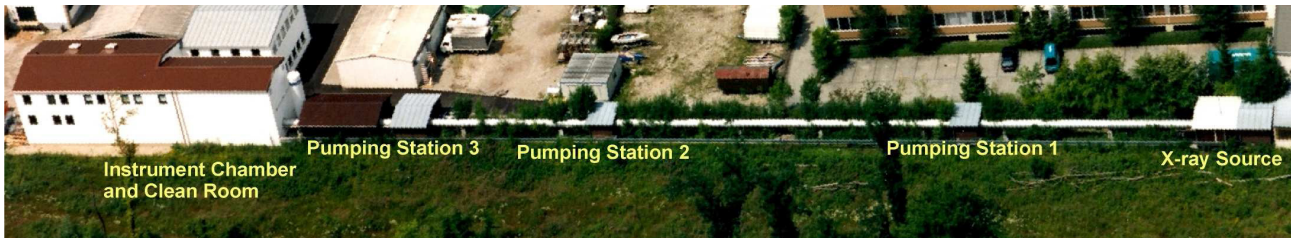
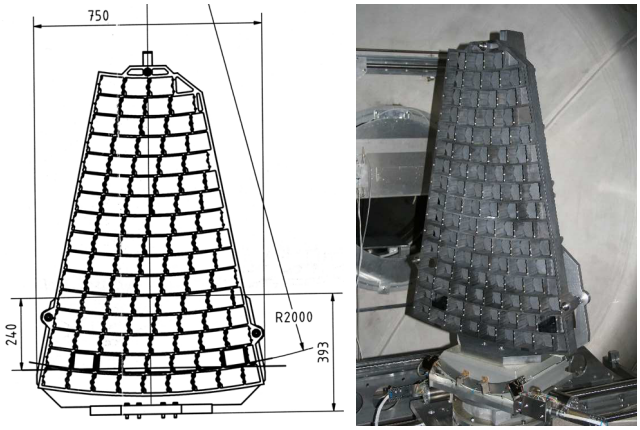
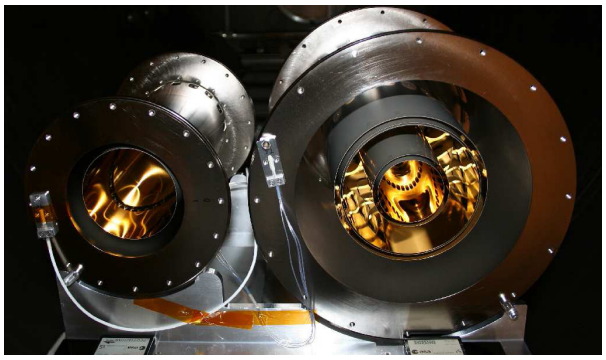
The PANTER X-ray Test Facility



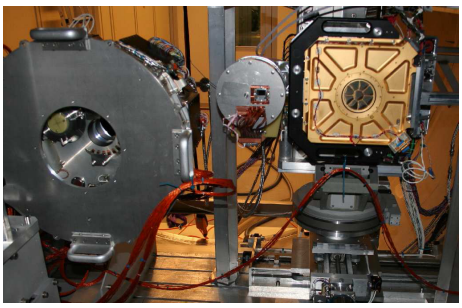
The PANTER facility is located in Neuried in the southwest outskirts of Munich. With its 123 m long vacuum tube (1 m diameter) and the X-ray source system and the main test chamber (3.5 m Ø, 12 m long) it has mostly been used for the characterization of X-ray telescopes as well as tests of detectors, focal plane instruments, reflection gratings, filters, etc. Recent activities include e.g. tests of multilayer-coated mirrors for hard X-ray projects like SIMBOL-X or NHXM, tests of silicon pore optics devices proposed for the XEUS/IXO mission (from single HPO units, tandem XOU, to a large petal), as well as mirror shells for optimization of the production for the eROSITA mission.
In the last three years TRoPIC has been extensively used for future mirror calibrations. Additionally, an extension to the facility to accomodate long focal lengths of the order of 20 m is being prepared.



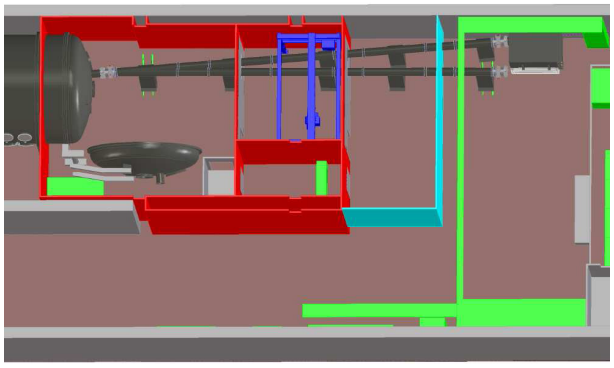
Example of large optics structures at PANTER: sketch of XEUS petal with mounting holes at the sides (left), and mounted in the PANTER instrument chamber (right), equipped with two silicon pore optics tandems, the tube exit can be seen to the left of the image.



eROSITA optics: multishell-drum (right) with 5 shells and single drum with one mirror shell (left)



PANTER focal plane instrumentation (from left to right): EPIC-pn (spare of XMM-Newton), TRoPIC (prototype for eROSITA with the new 75 µm × 75 µm pixel framestore CCD), PSPC (spare of ROSAT).



PANTER beam-line extension, from left to right: modified door of instrument chamber (drawn in open and closed positions) with additional port, valve, and bellow; tube in the two extremal positions for r = 0.25 m and r = 2 m; crossing of clean room and material lock (rooms depicted in red) with crane (blue); curtain area (in cyan) and focal plane region; infrastructure is illustrated in green.

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