RESULTS FROM THE SPI IMAGING TEST SETUP

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The SPI Imaging Test Setup (SPITS) was built at MPE to allow experimental verification of the imaging properties of the Spectrometer onboard INTEGRAL (SPI). Of special importance is the possibility to validate simulations - which are needed for SPI image reconstruction - with laboratory measurements.
SPITS consists of a coded mask and two Germanium detectors. The coded mask is based on a SPI mask development model, has the same Tungsten-alloy HURA mask coding as SPI, and is made of SPI flight model materials. The two hexagonal Ge-detectors in their Al caps (each 6 cm side-to-side and 7 cm long) are from the same manufacturing line as the SPI flight detectors. They are housed in a common Al end cap and cooled with liquid nitrogen. Mounted on an XY-table, they can be moved to cover the 19 Ge detector positions of the SPI camera. The SPI plastic scintillator anticoincidence is replaced by a plexiglass sheet, and no BGO anticoincidence system is used.
We have measured the response of SPITS to radioactive sources (60 keV to 1.8 MeV) at a distance of 9 m from the detector plane. We use both image deconvolution algorithms foreseen for SPI data analysis (*spiros* and *spiskymax*) for our analysis. In addition, accelerator tests are planned for May 2001. Photons from (p,γ)-reactions (up to 9 MeV) will be used to test SPITS imaging capabilites. We present our findings for the angular resolution and the point-source-location capability of SPITS as a function of energy and for different source geometries relative to the mask coding. Thus SPITS results will complement the calibration performed with the flight model of SPI.