## The $\gamma$-Ray Burst-Detection System of the INTEGRAL-Spectrometer SPI

G. G. Lichti, R. Georgii, A. von Kienlin, V. Schnfelder, C. Wunderer (MPE), H.-J. Jung (DSS), K. Hurley (UCB)

The determination of the precise location of $\gamma$-ray bursts is an important task of $\gamma$-ray astronomy. Although $\gamma$-ray burst locations can be obtained now already from single experiments (BATSE, COMPTEL, BeppoSax) the location of bursts via triangulation using the interplanetary network is still important because not all bursts will be located precisely enough by these instruments. In order to get location accuracies down to arcseconds via triangulation one needs long baselines. At the beginning of the next decade several spacecrafts which explore the outer planetary system (the Mars-Surveyor Orbiter, the Pluto Express and probably Ulysses) will carry $\gamma$-ray burst instruments. INTEGRAL as a near-earth spacecraft is the ideal counterpart for these satellites for the determination of precise $\gamma$-ray burst locations using the interplanetary network.
The anticoincidence shield of the INTEGRAL-spectrometer SPI consists of 512 kg of BGO crystals. This massive scintillator allows the measurement of $\gamma$-ray bursts with a very high sensitivity. Estimations have shown that with SPI some hundred $\gamma$-ray bursts per year on the 5 $\sigma$ level can be measured, having an equivalent sensitivity to BATSE. The $\gamma$-ray burst detection system of SPI will be described here, its technical features will be presented and the scientific capabilities will be assessed.