AGILE: a Gamma-Ray Mission

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AGILE is an innovative, cost-effective gamma-ray mission recently approved by the Italian Space Agency for the Program of Small Scientific Missions. The AGILE gamma-ray instrument (Silicon tracker and CsI mini-calorimeter) is designed to detect and image photons in the 30 MeV–50 GeV energy band with good sensitivity and very large field of view (FOV $\sim 2\ sr$). An X-ray detector, Super-AGILE, sensitive in the 10–40 keV band and integrated on top of the gamma-ray tracker, will also provide simultaneous hard X-ray imaging and moderate spectroscopy.
AGILE will operate as an Observatory open to the international community. The AGILE scientific program will be optimized for three main goals: (1) transient searches and monitoring of gamma-ray sources; (2) fast reaction to transients, and dissemination of quicklook results to allow multiwavelength observations; (3) optimal timing and broad-band ($\sim$ 10 keV – 50 GeV) studies of GRBs, solar flares, and other transients.
For selected sky areas, AGILE might achieve a flux sensitivity (above 100 MeV) better than 5×10^{-8} ph cm^2 s^{-1} at the completion of its scientific program. AGILE is planned to be operational during the year 2002 for a 3-year mission. It will be an ideal 'bridge' between EGRET and GLAST, and the only mission entirely dedicated to high-energy astrophysics above 30 MeV.