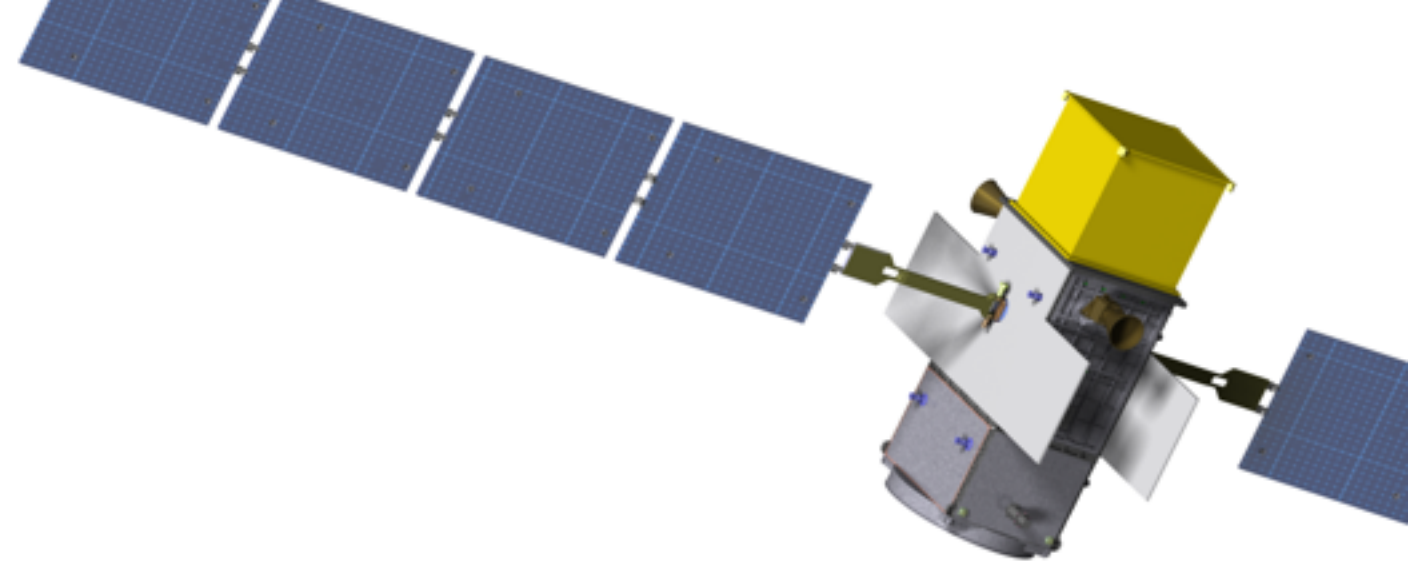




e-ASTROGRAM

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Planned Mission

Countries participating: Italy, France, Germany, Spain, Switzerland, Ireland and Poland (opening to Japan and USA).

First Lol sent to ESA to M4 program for a Phase-A study not selected

Second Lol sent to ESA for M5 prob in December 2015 (which allows a large volumen -> larger sensitivity)

Spanish contribution:

- Contact person: M. Herranz (ICE, CSIC/IEEC), M. Lozano (CNM)
- Si detectors developed at CNM and noise simulation based on Geant4
- Science exploitation (with members from ICE, UB, ...)

Concept

Observation of the Universe with unprecedented sensitivity in the energy range 0.3 MeV - 100 MeV, extending up to GeV energies.

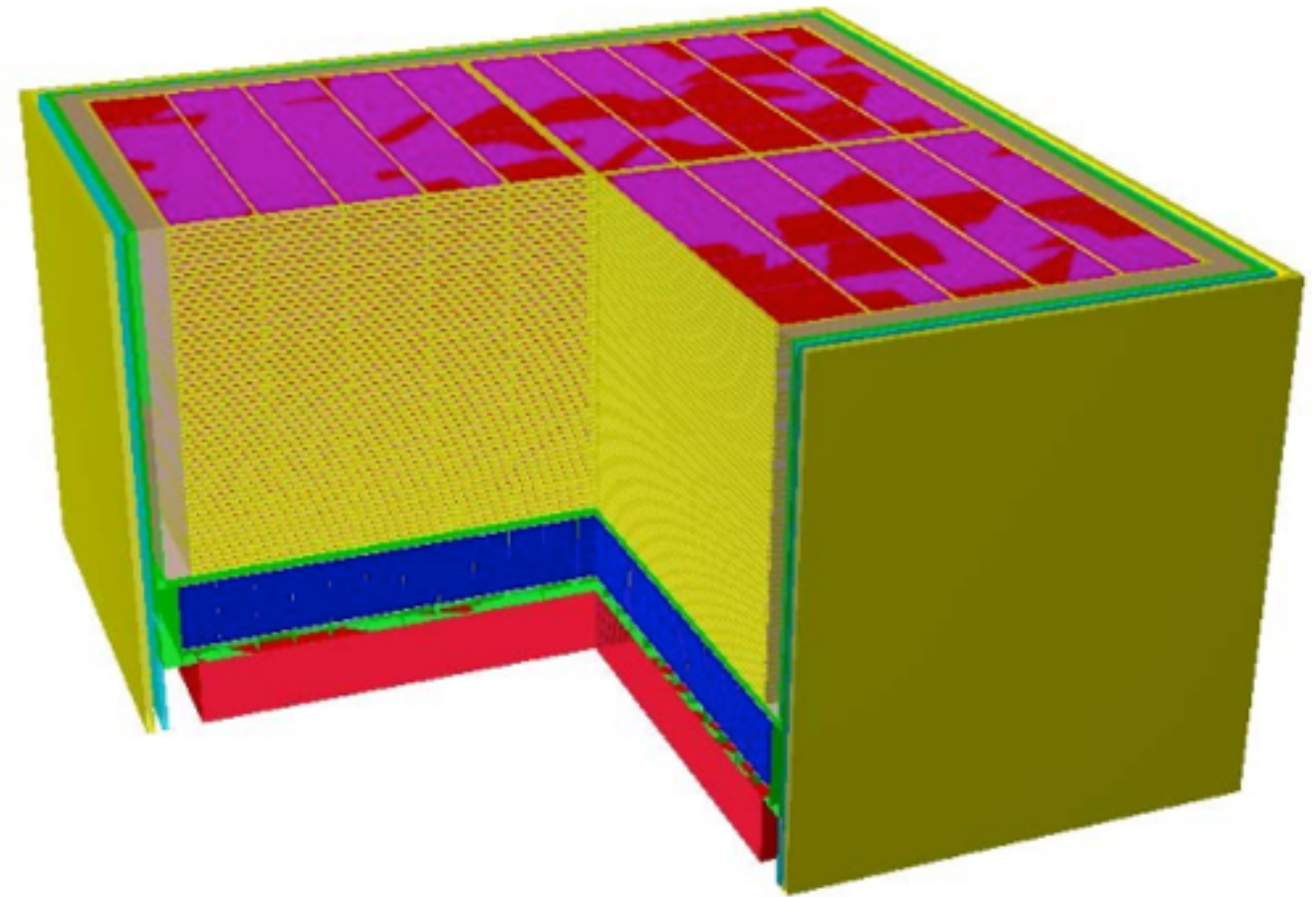
- An optimal gamma-ray line and continuum sensitivity in the range 0.3 MeV - 100 MeV
(improving the previous generation by a factor of 30-50).
- The best angular resolution achievable in the range 50 MeV – 1 GeV (0.15 deg at 1 GeV) by state-of-the-art detectors
- A large field of view (3 sr)
- Excellent polarisation capability for steady and transient sources
- Sub-millisecond trigger, fast processing, and alert capability for GRBs and other cosmic and terrestrial high-energy transients.

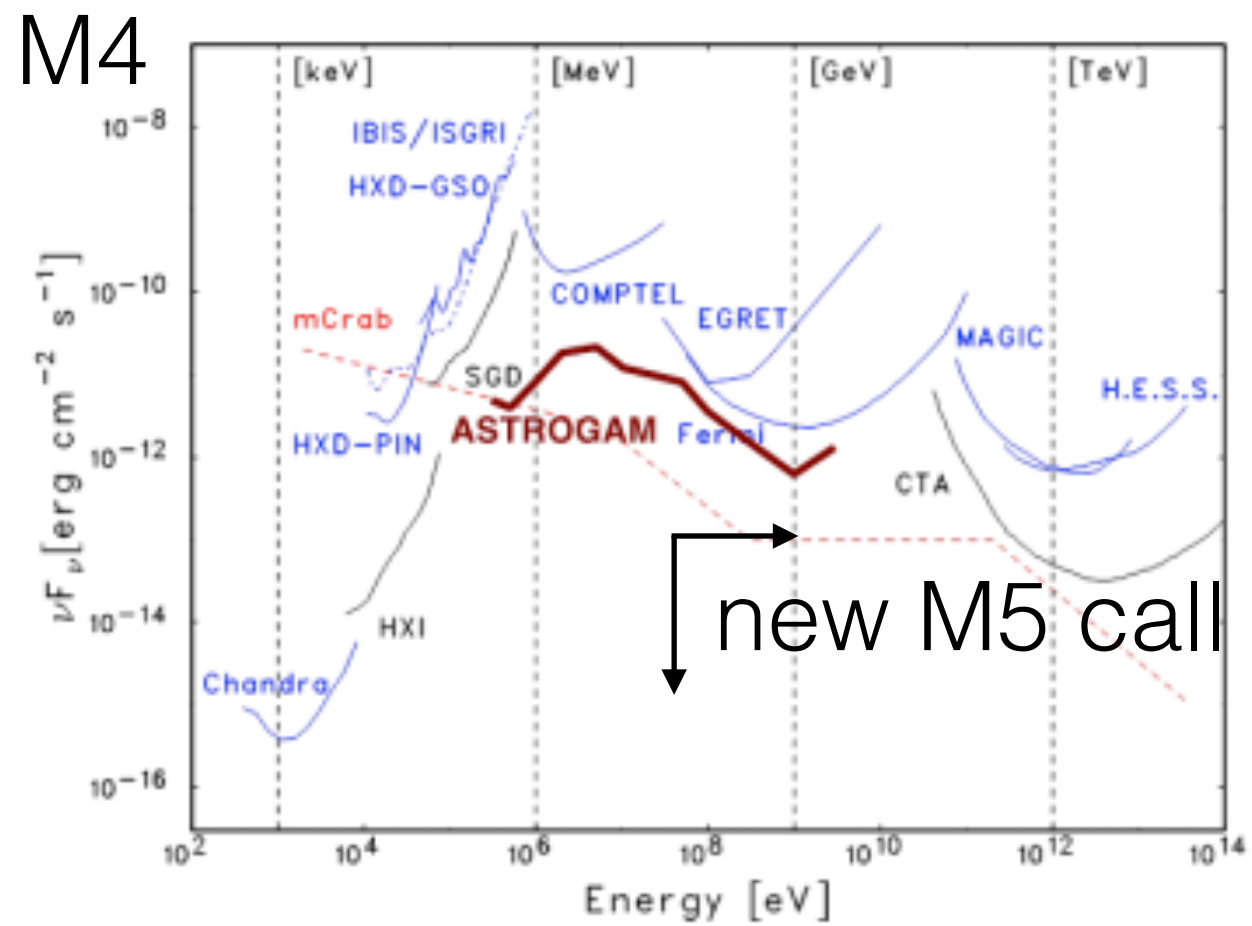
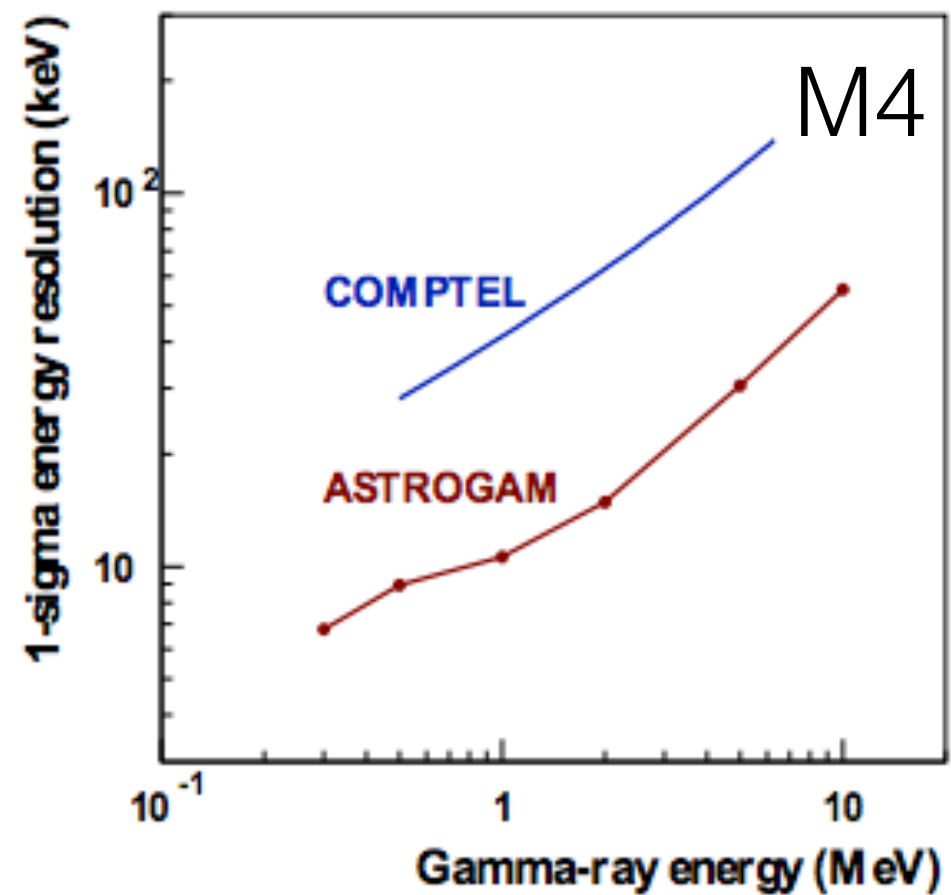
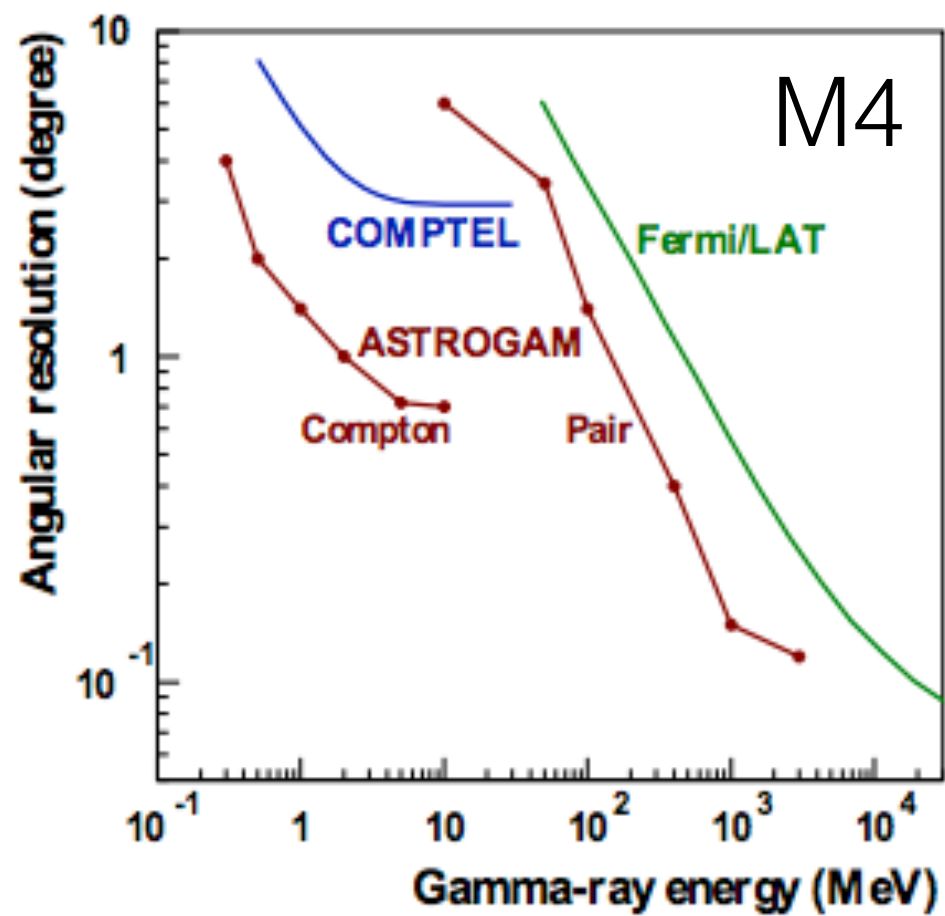
Instrument

it consists of 3 main detectors configured in 4 separate units

- A Silicon Tracker, capable of detecting photons both in the Compton scattering regime (300 keV – 10 MeV) and in the pair production regime (10 MeV – 10 GeV); the Tracker is based on the technology of double sided Si strip detectors to determine the energy and the 3D interaction topology with excellent energy and spatial resolution (30-40 microns);
- An imaging Calorimeter to absorb and measure the energy of photons/particles produced by the Tracker and external events, made of an assembly of scintillation crystals with state-of-the-art readout achieving an energy resolution of 4.5% at 662 keV;
- An Anti-coincidence (AC) system to veto events induced by trapped, solar, and cosmic-ray charged particles, design with plastic scintillators covering the instrument.

The instrument configuration is based on 4 towers, each containing a 50-plane Silicon Tracker, the Calorimeter and the associated electronics. A segmented AC system surrounds the whole instrument. The payload is completed by a Payload Data Handling Unit (PDHU) and a Power Supply Unit. The PDHU is in charge of carrying out the payload internal control, scientific data processing, operative modes management, on board time management, and telemetry and telecommand management.





More news soon! thanks

<http://astrogam.iaps.inaf.it/index.html>

