



HERMES-TP/SP

Technologic and Scientific Pathfinder

High Energy Rapid Modular Ensemble of Satellites

HERMES-TP/SP is a constellation of six 3U nano-sats hosting simple but innovative X-ray detectors for the monitoring of Gamma Ray Bursts (GRB) and the electromagnetic counterparts of Gravitational Wave Events (GWE), and for the determination of their position. It is an intrinsically modular experiment that can be naturally expanded to provide a global, sensitive all sky monitor for high energy transients.

Accurate GRB localization exploiting the high-energy signal delay measured on at least three different spacecrafts.

Quickly spot newly born black-holes electromagnetic counterparts of GWEs.
Listen to and chase for GWEs.

Each nano-sat will host an innovative, high performance Silicon Drift Detector + scintillator (GAGG:Ce) high-energy detection system, for wide band, high resolution observations of cosmic transients.

The high-performance coordination of the constellation pointing is carried-out exploiting novel, Cubesat-dedicated attitude control algorithms specifically developed for the mission.

HERMES strengths:

- Disruptive technologies
- Enhanced reliability
- Improved performance
- Modularity and miniaturization of technologies
- Development of miniaturized instrumentation for breakthrough science
- Contribute to the Space 4.0 goals
- Preparation for large future constellations

The constellation will be launched in its operational orbits by ASI by the end of 2022/beginning of 2023.

11 partners from 5 European countries have gathered to fly the HERMES-SP fleet.



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