“Laser Ranging to Galileo”, an ASI-INFN Strategic Project of the Italian Ministry of Research
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Abstract

Framework

SPACE. Specialized, innovative applications to and services for:

• Satellite Laser Ranging (SLR) to Laser Retroreflectors Arrays (LRAs) of Galileo (the European global positioning constellation the main EU Flagship Programme)
• EXCELLENT SCIENCE of HORIZON 2020: PHYSICAL SCIENCE AND ENGINEERING (PE):
• Standards and calibrations for the International Laser Ranging Service (ILRS), the network of ground laser stations tracking satellites and Moon
• Advanced performance characterization of LAGEOS (LAser GEOdynamics Satellites), which fundamental for the definition of the center of mass of the Earth (geocenter), the origin of the International Terrestrial Reference Frame (ITRF)
• HORIZON 2020: COMPETITIVE INDUSTRY for GNSS

Prime: ASI-CGS. Sub-structure: Matera Laser Ranging Observatory (MLRO)
Partner: INFN-LNF. Sub-structure: SCF_Lab

Brief description

Optimized technological & industrial services for precision and advanced laser tracking and characterization of Galileo & other GNSS constellations

Project objectives:

• Infrastructure equipment upgrade of the MLRO laser ground station of the SCF_Lab dedicated to the characterization of the laser retroreflector payloads of Galileo and LAGEOS
• Applications to GNSS (Galileo) and Space Geodesy (LAGEOS). Both at SCF_Lab and MLRO.
• SCF-Test of SLR of large diameter LRAs of Galileo and LAGEOS
• Tight synergy of SCF_Lab, MLRO infrastructures

Activities

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LRA = Laser Retroreflector Array