The Italian Ministry of Research’s Project ‘Laser Ranging to Galileo’

We shall present the activities that are being performed in the framework of the joint ASI-INFN ‘Premiale’ Project ‘Laser Ranging to Galileo (LR2G)’, which is funded by the Italian Ministry of Research. Thanks to LR2G, ASI-CGS and INFN-LNF are implementing important upgrades of their respective equipments and infrastructures, and, subsequently, they will carry on their peculiar tasks for the completion of the project. Namely, ASI-CGS will laser range to LRAs on board Galileo IOV vehicles and to LAGEOS satellites; whereas, INFN-LNF’s SCF_Lab will complete full laboratory thermo-vacuum-optical characterisations of the 5th spare flight Galileo IOV LRA (on loan to LNF from ESA) and of the LAGEOS Engineering Model (also known as LAGEOS Sector, on loan to LNF from NASA). Besides the technical challenges related to equipment/infrastructure upgrades (which will be commented), the objective of the present project is to compare Galileo IOV retroreflectors against LAGEOS retroreflectors, both in the laser ranging station and on the laboratory optical bench. Following results will help optimizing GRA design and manufacturing. The project has started this year (2016) and it is now getting through its initial steps. We shall then present the rationale of the activities and some first results.