



Abstract Submission

Intended Topic: Missions

Preferred type of contribution: oral

Fundamental Physics results in testing Gravitation with Laser-Ranged satellites: the LARASE and SaToR-G experiments

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Abstract

Launched into orbit in 1976 and 1992 respectively, the two satellites LAGEOS (NASA) and LAGEOS II (ASI/NASA) have up to now constituted two very precious sources of scientific results thanks to the precise laser tracking of their orbits. Space geodesy, geophysics and gravitational physics have been extensively studied with their tracking and modeling of their orbits, but also space-to-ground quantum communication has been successfully verified. Several research teams and institutions have exploited the orbits of these satellites — and more recently with the inclusion of the LARES satellite (ASI-2012) — for tests of General Relativity and other theories of gravitation. We will present the results obtained in this field of fundamental physics from two Italian projects called LARASE (2013-2019) and SaToR-G (2020-2024), funded by the National Scientific Commission II of the National Institute for Nuclear Physics (INFN).

