

Relativistic effects measurements in the field of the Earth and the LARASE research program

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The main goal of the LARASE (LAsEr RAnged Satellites Experiment) research program is to obtain refined tests of Einstein's theory of General Relativity by means of very precise laser measurements of the round-trip time from ground stations to a set of geodetic satellites.

In particular, a big effort of LARASE is dedicated to improve the dynamical models of the LAGEOS, LAGEOS II and LARES satellites, with the objective to obtain a more precise and accurate determination of their orbit. These activities contribute also to reach a reliable and robust error budget for the main sources of systematic errors.

The results reached over the last year will be presented in terms of the improvements achieved in the dynamical model, in the orbit determination and, finally, in the measurement of the relativistic precessions that act on the orbit of the satellites.