A once in a lifetime experiment: SLR observations of the Apophis encounter Friday, April 13, 2029

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On the night of Friday, April 13, 2029 a little after 21:00 UTC, the asteroid Apophis and the Earth will have a very close encounter. Apophis will pass inside the geostationary belt. During that period Apophis's minimum range distance to the European SLR stations will be around ~32000-35000 km.

This close encounter will occur during local night-time in Europe.

The Apophis sky elevation will be in the same range as for regular SLR observations.

A general overview of Apophis visibility conditions for Europe is presented.

Given the current SLR state-of-art ranging to passive objects (space debris) mainly among the EUROLAS SLR stations. And considering the expected technological advances in the next seven years. It is the time to start a preliminary discussion about organising a European-wide SLR Apophis laser ranging campaign based on the multistatic SLR ranging mode.

This SLR data set will complement a wide array of observations planned or proposed.

Some initial ideas about how to organise such a campaign are presented.