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Session: GGOS

G2.2

[New technologies for the Global Geodetic Observing System](#)

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Abstract

International Laser Ranging Service (ILRS) Status

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The International Laser Ranging Service (ILRS) provides Satellite Laser Ranging (SLR) and Lunar Laser Ranging (LLR) observations and data products with a focus on Earth and Lunar science and engineering applications. The basic observables are the precise two-way time-of-flight of ultra-short laser pulses from ground stations to retroreflector arrays on satellites and the Moon and the one-way time-of-flight (TOF) measurements to space-borne receivers (transponders). The ILRS network is experiencing significant growth, with multi-techniques Core Sites exploiting the combined strengths of the various geodetic techniques, new low-cost systems, some being transportable. Some of the stations are also dedicating some of their efforts to tracking Space Debris, contributing to the maintenance of various data catalogs, helping support operations and continue their contributions to geodetic science. New stations joining the network, and new satellite missions supported, are strengthening the ILRS contribution to the International Terrestrial Reference Frame (ITRF) and expanding the spectrum of satellite applications supported by the Service. Improvements in Satellite Laser Ranging science products continue, enabled by new data processing and analysis techniques and better modeling. Fundamental physics applications continue to be supported through dedicated campaigns, as are time-transfer experiments and Lunar Laser Ranging (LLR) applications, and the support of new lunar missions.

It is the goal of this presentation to report on progress achieved by the International Laser Ranging Service (ILRS) during the last few years.

Keywords: International Laser Ranging Service, Geodesy, Satellite Laser Ranging, Lunar Laser Ranging, Laser Ranging Network, Terrestrial Reference Frame, Time Transfer, Space Debris, Transponders.