

A New ILRS Web Site:

<http://ilrs.gsfc.nasa.gov/new>



Welcome to ILRS

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Overview

Satellite Laser Ranging (SLR) and Lunar Laser Ranging (LLR) use short-pulse lasers and state-of-the-art optical receivers and timing electronics to measure the two-way time of flight (and hence distance) from ground stations to retroreflector arrays on Earth orbiting satellites and the moon. The laser stations are also used to measure one-way distance from the ground stations to remote optical receivers on space and for very accurate time-transfer. Laser ranging activities are organized under the International Laser Ranging Service (ILRS) which provides global satellite and lunar laser ranging data and their derived products to support geodetic, geophysical, and fundamental research activities as well as IERS products important to the maintenance of an accurate International Terrestrial Reference Frame (ITRF). The service develops the necessary global standards/specifications and encourages international adherence to its conventions. The ILRS is one of the space geodetic services of the International Association of Geodesy (IAG) and an entity within its Global Geodetic Observing System (GGOS).

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TerraSar-X Satellite

Highlights



The third circular for the 17th International Laser Ranging Workshop has been issued.

Release Date: 05/05/2011

The satellite and lunar laser ranging community will hold its 17th International Workshop on Laser Ranging in Bad Kötzing, Germany on May 16-20, 2011. The workshop will provide a venue for scientists, analysts, and practitioners to meet and discuss current and future applications, performance of the network, quality of data products, new technology, and paths forward to meet future requirements including those now being defined by GGOS. Representatives from other disciplines are welcome to participate. More information about the workshop can be found on the workshop website. [More...](#)



Wildfires burn near McDonald Observatory

Release Date: 05/04/2011

Several wildfires burned through grasslands in southwest Texas in early April, burning at least 60,000 acres and several homes near Fort Davis. The ILRS station at

Recent News

- [GLONASS-125 has replaced GLONASS-120 in the ILRS priority list](#)
- [The 4th quarter report card has been published.](#)
- [We have recently lost two colleagues of the ILRS: Dr. Wolfgang Seemueller/DGFI, head of the EUROLAS data center and Professor Yang Fumin, the former vice director of Shanghai Astronomical Observatory.](#)
- [The first 3-way simultaneous laser ranging to LRO occurred Monday November 1st.](#)
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Meetings

- [17th International Workshop on Laser Ranging, May 16-20, 2011 Bad Kötzing, Germany](#)
- [International Union of Geodesy and Geophysics XXV General Assembly, June 27-July 08, 2011, Melbourne Australia](#)
- [American Geophysical Union Fall Meeting, December 05-09, 2011, San Francisco, CA](#)
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Publications

- [2007-2008 ILRS Report](#)
- [Proceedings from the 16th International Workshop on Laser Ranging](#)
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International Laser Ranging Service

A service of the International Association of Geodesy

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MLRO Station

Highlights



[The third circular for the 17th International Laser Ranging Workshop has been issued.](#)

Release Date: 05/05/2011

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[LASS-125 has replaced LASS-120 in the ILRS list](#)

[A quarter report card has been published.](#)

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GSFC ILRS Station Greenbelt, MD

The ILRS coordinates activities for the international network of Satellite Laser Ranging (SLR) and Lunar Laser Ranging (LLR) field stations. The network represents a global consortium of permanent and transportable field stations that range to ILRS approved targets for science and engineering applications. The stations are registered with the ILRS and are required to keep web based site logs up to date on configuration. To facilitate operations and communications, the network is divided into sub-networks by region:

- European Laser (EUROLAS) network
- Western Pacific Laser Tracking Network (WPLTN)
- NASA network

Lunar Laser Ranging (LLR) is currently performed at stations in Grasse, France; Matera, Italy; McDonald Observatory, Texas; and Apache Point, New Mexico.

Although the general configuration of the ranging stations is similar, they have been developed by different institutions over time, and represent different approaches in technology, operation, and maintenance. In some cases, where several systems have been built by the same agency, designs may be very similar. Technology information is shared and some components tend to be used by many groups. Current systems in the field range from legacy technology long proven through many years of operation to newer technologies with enhanced capability.

The ILRS itself does not fund the establishment or operation of ranging stations. Stations are typically associated with a host nation space or scientific research

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GLONASS-125 has replaced GLONASS-120 in the ILRS priority list

Release Date: 05/04/2011

The Center for Orbit Determination in Europe (CODE) has requested that the ILRS cease tracking GLONASS-120 and replace this satellite with the new GLONASS-K satellite, GLONASS-125.



Wildfires burn near McDonald Observatory

Release Date: 05/04/2011

Several wildfires burned through grasslands in southwest Texas in early April, burning at least 60,000 acres and several homes near Fort Davis. The ILRS station at McDonald Observatory was fortunately spared any damage. (photo courtesy of Dave Doss/U. Texas at Austin).



As of March 20th, the participating stations of the LRO-LR sub-network had accumulated over 975 hours of successful ranging to LRO since its launch in June 2009.

Release Date: 03/20/2011

Laser Ranging (LR) to the Lunar Reconnaissance Orbiter (LRO) is a one-way uplink only measurement, where the ground station measures the outgoing pulse time, and the Lunar Orbiter Laser Altimeter (LOLA) instrument onboard LRO measures the arrival time. The LOLA Science Team then forms the one-way ranges from the ground station and spacecraft measurements. The accuracy of the LR range data is better than 10 cm. More information can be found on the LRO-LR website. [More...](#)

Release Date: 12-Feb-2011

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