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## Overview and Performance of the Ukrainian SLR Station “Lviv-1831”

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### Abstract

*Satellite laser ranging station “Lviv-1831” was found in 1998. In August 2002, it was registered as an associate SLR station in the ILRS. It is also a member of the Ukrainian network of UCEOP (Ukrainian Center for Earth Orientation Parameters).*

*The station is based on the following equipment: 1 m telescope TPL-1M on alt-azimuth mounting, an SL-212 laser with 150 ps pulses at 532 nm and a repetition rate 5 Hz, a Latvian A911 timer with internal precision of 40 ps. The current fire-receiving system can only operate at ranges above 900 km [1].*

*During 2005 the station ranged to 138 passes of LAGEOS with an RMS of 50 mm. The short term stability over 2005 was about 35 mm, and the long term stability was 25 mm.*

*At present, the station team is testing a new receiver with a Hamamatsu module H6780-20 PMT, a neutral density filters wheel for return signal strength control, and a new electromechanical shutter. Implementation of these improvements in the system should increase the performance and the accuracy of ranging results by a factor of about three. The next step in station modernization is the improvement of fire-receiving system for ranging to very low satellites at altitudes about 500 – 900 km.*

### References:

- [1] A.Bilinsky, Ya.Blagodyr, A.Lohvynenko, S.Ternavska Station reports: Lviv, Ukraine // International laser Ranging Service 2003-2004 Annual Report, June 2005, pp.B-26 – B-27.