

J. del Pino, I. Liubich, S. Melkov, S. Horelnykov, K. Frolkov, K. Salminsh

### **SLR Station 1884, Riga, Upgrading the Station Calibration Procedures**

The calibration has been upgraded, with the goals of: \* Better stability with reduced RMS. \* Ease of use. \* Minimizing the station range bias. Hardware upgrade: \* Using a single-mode optical fiber (OF) for the calibration path. \* Using the "spillover" green beam from the laser director mirror as a source for the start signal and the calibration path. \* A new optical head shared by a new photo-diode and the calibration OF optics, installed on a common optical bench with the laser and the beam director mirror. \* The OF is stored on a thermal box, the laser room is kept at a fixed temperature. \* Selecting the calibration and tracking paths from the operator console. Software upgrade: \* Fixed amplitude value compensation for all the data. \* Observer bias-free automatic calibration filtering. \* Using pre- and post-pass calibrations done within a 1-hour time window. The system delay constant(s): Our calibration path does not pass through the SLR telescope, we cannot not use the distance Invariant Point - External Target(s) for the system delay determination. The system delay constants are measured by alternating between a LRR at the telescope secondary mirror and the standard calibration path. The results are shown.