



## **Extending the ILRS Terrestrial Reference Frame Development Contribution to ITRF2014**

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The announcement of a possible extension of the next International Terrestrial Reference Frame (ITRF) model to include all of 2014 required the extension of all techniques' contributions by an additional year within a tight delivery schedule (end of February 2015). The ILRS Analysis Working Group (AWG) agreed to support this activity and laid out a plan to ensure that we can meet this strict deadline. Although Satellite Laser Ranging (SLR) data have contributed to the definition of the ITRF over the past three decades, delivering products under such a tight schedule (only a few weeks after the last data are taken) was never before required. Careful planning to ensure the timely availability of the ancillary information required for the reduction of the SLR data and the fact that the analysis procedures of each contributing AC were already validated with the ITRF2013 submissions helped us meet the deadline and demonstrated that it is possible to do so even routinely. The ILRS contribution is only an extension to what was submitted for ITRF2013, with no other changes in modeling or standards of analysis. The main focus of our re-analysis is monitoring systematic errors at individual stations, accounting for undocumented discontinuities, and improving the target signature models. The latter has been addressed with the adoption of mm-accurate models for all of our targets. As far as the station systematics, the AWG had already embarked on a major effort to improve the handling of such errors prior to the development of ITRF2008. The re-analysis for ITRF2014 extends from 1983 to the end of 2014. As in the case of ITRF2008, station engineers and analysts have worked together to determine the magnitude and cause of systematic errors that were noticed during the analysis, rationalize them based on events at the stations, and develop appropriate corrections whenever possible. With the completion of ITRF2014 the ILRS will next turn its attention to the development of new products that we can soon deliver to the community on a routine basis. This includes precise orbits, low-degree gravity field harmonics, and quality control of ground system systematics. This presentation will give an overview of the development and evaluation of the extended ILRS contribution to ITRF2014.