



Evaluation of the ILRS network performance using the final ITRF2014

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The release of the new realization of the International Terrestrial Reference Frame—ITRF2014 was already evaluated in its preliminary form and found to be a significant improvement over previous TRFs. The International Laser Ranging Service (ILRS) contributes unique information that only Satellite Laser Ranging—SLR is sensitive to: the definition of the origin, and in equal parts with VLBI, the scale of the model. For the development of ITRF2014, the ILRS analysts adopted a revision of the internal standards and procedures in generating our contribution from the eight ILRS Analysis Centers. The improved results for the ILRS components were reflected in the resulting new time series of the ITRF origin and scale, showing insignificant trends and tighter scatter. The reanalyzed SLR data on the basis of ITRF2014 are now used to evaluate the individual station performance for the entire ILRS network, focusing on improved estimates of persistent systematic errors over significant periods of time, in hopes of an improved a priori model to be used in the next realization of the ITRF. SLR data beyond what is included in the development of the ITRF and especially from lower altitude missions are used to validate the performance of the model (using e.g. STARLETTE, AJISAI and LARES data). This presentation will focus on the resulting model for persistent systematics and its effect on the ITRF development, using exclusively ILRS tracking data and other ILRS products.