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The ILRS Analysis Centers' Report on the Evaluation of ITRF2020P

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The member ACs of the ILRS Analysis Standing Committee—ASC, evaluated the preliminary release of ITRF2020—ITRF2020P. For the most part, this evaluation is based on the reanalysis of part or all of the SLR data from geodetic spherical targets in the model; in particular, we focused on the two LAGEOS and two Etalons from 1993 to the end of 2020, extended by one year of data NOT included in the model: all of 2021. The evaluation report was submitted to ITRS for consideration in the finalization of the ITRF2020 model. Some ACs used additional data that do not contribute to ITRF development for testing. The reanalysis used the same improved modeling that was used for the development of the ILRS contribution to ITRF2020.

We will focus on the implementation of the new approach in handling systematic errors at the stations and how users will need to adapt their data analysis procedures to benefit the most from the new model. The 2021 ILRS contribution to ITRF2020 minimized the scale difference between SLR and VLBI below 2 mm (ITRF2014 ~9 mm). The reanalysis incorporates an improved “target signature” model (CoG) for better separation of true systematic errors from errors in describing the target’s signature. This model will be periodically updated from now on, so that it represents accurately the state of operations at all sites in the ILRS network of tracking stations. SLR data users should make sure from now on to use each ITRF model with the appropriate (consistent) Data Handling file and “target signature” model.

The presentation will provide an overview of the analysis procedures and models, and it will demonstrate the level of improvement with respect to the previous ILRS product series, focusing especially on the Core ILRS sites.