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SESSION   Session 1: satellite tracking and scheduling

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TITLE   SLR Requirements for the Development of the ITRF

ABSTRACT

For nearly four decades Satellite Laser Ranging (SLR) data have been used to derive tracking station coordinates and velocities for the global network. Since the launch of the BTS, the precursor of the International Terrestrial Reference Frame (ITRF), the SLR contribution has played a unique and fundamental role in the realization of the frame's origin, and shared with VLBI the definition of its scale. The ITRF development is based on an inter-technique combination of the geodetic solutions obtained from an intra-technique combination strategy performed at each IAG Technique Centre. It is the responsibility of each technique to determine and assure the quality and quantity of data that are required in this process, to ensure the accuracy and stability goal of the model.

In recent years, simulations have determined the minimum size of a future network that will deliver the quantity and quality data to support the future requirements of the ITRF accuracy and stability: 1 mm and 1 mm/decade. We will briefly review these findings and compare them to the present level of data products that the ILRS requires from its member stations.

SLR is also used to calibrate, scale and center the GNSS orbits which are the main distributors of the ITRF to the user community. We will review results of simulations that helped set minimum requirements of tracking to assure the delivery of the ITRF to the users with its intrinsic accuracy uncompromised.