

Height Determination for the most Accurate SLR Stations

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Recent advances in SLR data analysis allow the separation of accurate height measurements from the non-geodetic signal, to complement the more easily resolved horizontal motion. However, elimination of engineering and environmental effects requires knowledge of the form of the signal. A constant range bias has the simplest, the most common and the most easily accommodated form. It can be resolved during the reference frame analysis process, given an accurate time interval over which it is expected to apply. We examine the emerging results from ITRF2020 (Pavlis et al, REFAG 2022) and prioritize the most accurate geodetic products. We will show height variations from a variety of SLR stations in different tectonic regimes. They contribute to long-term tectonic Earth models and monitor vertical variation at higher frequencies: annual, tidal, and diurnal. Data handling techniques will be outlined to enhance the isolation of the geodetic signals and enable their application to Earth and Ocean model development