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ABSTRACT

SLR station operation relies to a large extend on the quality of the required satellite position predictions. Poor predictions with large time and range biases increase the target acquisition time and thus reduce the performance of stations and the network as a whole. This is relevant for low flying satellites, in particular if they carry out maneuvers. Despite the relevance of the prediction accuracy, there is currently no established process to evaluate their quality. We present a method for such a process that uses normal point data uploaded to data centers by ILRS stations worldwide. First analysis results showed systematic trends over time for most targets and prediction providers. Furthermore we used these trends to predict real time correction values for the time bias. We also present a service prototype that provides these correction values for the latest predictions of relevant satellites and providers in real time. Using these correction values during tracking allowed for faster target acquisition and thus a better tracking performance of low flying satellites at GFZ Potsdam SLR station.