

# Sequential Processing of ILRS Observations – Experiences over the last 5 years

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Satellite Laser Ranging (SLR) is an extremely precise method of tracking satellites. This paper documents our experiences and estimated accuracies obtained in the last 5 years while processing SLR observations of satellites in support of the Commercial Space Operations Center (ComSpOC) internal calibration activities. Such precise Orbit Determination (OD) requires special algorithms and processes. To calibrate our internal sensors, we use an extended sequential filter, smoothing methods, and analytic partials employed by the Orbit Determination Tool Kit (ODTK) to obtain accuracies and realistic error estimates generally not obtainable via batch least squares estimation techniques.