

ON THE RECEIVER'S IMPACT ON PHASE CENTER VARIATIONS

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Abstract

Today absolute and individual antenna phase center variations (PCV) for GPS are recommended by the IGS and currently widely used in many applications. Up to now the PCVs are generally determined and corrected irrespective of the receiver in use. In previous experiments at Institut für Erdmessung (IfE) it could be shown that receiver specific properties have an impact on the estimated phase center variations. For instance every manufacturer handles the tracking of the GPS L2 signal by using its own algorithms. It can be supposed that similar situations will occur in future multi-frequency multi-GNSS receivers.

Consequently in this contribution we will investigate the impact of the receiver on the PCV estimation using the Hannover Concept of Absolute Antenna Calibration with a robot. High level antennas are calibrated with different receivers in parallel. To reduce the impact of the individual receiver clocks, an external frequency standard is used as a common reference. The obtained L1 / L2 and derived L0 PCVs will be compared and deviations between the results from different receivers will be quantified and discussed.

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