



## **Validation of Phase Center Corrections for new GNSS-Signals obtained with absolute antenna calibration in the field**

Yannick Breva, Johannes Kröger, Tobias Kersten, and Steffen Schön  
Institut für Erdmessung, Leibniz University, Hannover, Germany

For high accuracy GNSS applications it is necessary to take phase center corrections (PCC) into account. At the moment PCC from chamber calibrations for various signals are available, however GPS L5 as well as Galileo PCC from field calibrations are still missing. The Institut für Erdmessung (IfE) provides PCC patterns in operational mode for IGS and EPN since several decades. Our group is working to develop calibrations of receiver antennas for new GNSS-signals. For the estimation of the PCC for the new signals we use a post-processing approach modelling the PCC by spherical harmonics. First results and the concept are presented by our group.

The focus in this contribution is to validate and verify the resulting PCC for GPS L5 as well as Galileo. A closed loop simulation shows that the pattern can be reliably estimated by our approach. For the verification of the results with real data a short baseline common clock set up at the Physikalisch-Technische Bundesanstalt (PTB) is used, where the receivers are linked to an external ultra stable frequency input. We use various antenna combinations and calculate observed-minus-computed (OMC) values to study the impact of PCC on receiver-to-receiver-single differences. With observations from several days, the sidereal repetition of GPS L5 PCC is analysed.