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## Combination of GNSS and VLBI data for consistent estimation of Earth Orientation Parameters

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We present the current activities of the Federal Agency for Cartography and Geodesy (BKG) towards a combined processing of VLBI and GNSS data. The main goal of the combined analyses of the two different space-geodetic techniques is the improvement of the consistency between the techniques through common parameters, as Earth Orientation Parameters (EOPs), but also station coordinates and tropospheric parameters through local ties and atmospheric ties, respectively.

The combination of GNSS data with VLBI 24-hour sessions and VLBI Intensive sessions is studied in detail w.r.t. EOPs to exploit the combination benefit to its maximum extend. We analyse the impact of the combination on the technique-specific parameters (e.g. dUT1), but also on common parameters (e.g. LOD, polar motion, station coordinates). When using GNSS data in combination with VLBI Intensive sessions, we can demonstrate an accuracy improvement of the dUT1 time series.

We also study the combination of troposphere parameters, focusing first on the validation of the technique-specific troposphere parameters at VLBI-GNSS co-located sites and on the modelling of the corresponding atmospheric ties.

BKGs primary interest is the combination of GNSS and VLBI data on the observation level. However, the current combination efforts are based on the normal equation level using technique-specific SINEX files as a starting point.