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Axis offset of VLBI antenna from local tie measurements in Metsähovi

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We have determined the local tie between IGS station METS and VLBI antenna reference point with kinematic GPS measurements regularly during the geo-VLBI campaigns since December 2008. Because the first experimental campaigns gave promising results, we have continued the measurements during every VLBI campaign. Besides the coordinates of the reference point we estimate also the axes offset and the orientation of the antenna for every campaign. We have developed a procedure to produce daily local ties with a daily axis offsets and antenna orientations.
The antenna axis offset estimated from the local tie measurements differs from the offset now used as a constant in VLBI data processing. The systematic error in axis offset may be one of the reasons for discrepancies between TRFs. We present the procedure to calculate the axis offset, and our results of offset values.
We have performed the analysis of GeoVLBI sessions to define the effect of axes offset value on estimation of VLBI antenna coordinates. The comparison of solutions obtained with two different axes offset value is shown. In the analysis, we take axes offset value, which is currently used in VLBI data processing and the value estimated from local tie measurements.