



## **Test of Stability of GNSS Sites on Czech Republic area by Combination of Daily Normal Equations**

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Local Analysis Centre of Geodetic Observatory Pecny (LAC GOP) carries out long time processing of observations from the most of Czech GNSS permanent sites.

Stabilisation of some sites is not ensuring firm connection between antenna and bedrock (sites on buildings) and thus long time coordinate stability. Therefore a judgement about site's stability is essential for proper selection of sites suitable for definition of new reference frame for Czech Republic (that is in preparation actually).

This paper summarises carried out tests of stability based on three-year combination of daily normal equations. Possible instability of sites was evaluated from behaviour of residuals to the combination.

The tests discovered horizontal instability of some sites (mostly from CZEPOS network) on several mm level - mostly yearly periodic movements. Some sites are problematic on winters. Very few sites have secular movement that makes them unsuitable for reference frame definition due to insufficient long time stability.