



## **Footprint observations at the Fundamental Station Wetzell**

**T. Kluegel**, C. Schade and W. Schlueter

Bundesamt fuer Kartographie und Geodaesie, Fundamentalstation Wetzell, Germany  
(kluegel@wetzell.ifag.de)

The stability of the ITRF strongly depends on the stability of the defining geodetic reference points. Beside local ties observations, which cover usually the observatory area of some 100 meters, some geodetic footprint markers should be established in a distance up to 10 to 50 km and included in the geodetic survey in order to document the geological stability in the vicinity of the observatory. 7-30 km apart from the Fundamental Station Wetzell four footprint points are established, which are permanently observed with GPS. For a period of four years observations are available from the four sites and analysed together with GPS observations taken at the observatory from those GPS-markes which are integrated in the International Networks as IGS, EUREF and GREF. One observation pillar is additionally equipped with a tiltmeter. With respect to the geodetic marker in Wetzell as fixed point, the observations are evaluated and day to day coordinates are generated employing the Bernese Software. The time series show a precision in the order of a few millimeters. Moreover systematic and seasonal effects can be seen. The paper gives information about the footprint and local network, the analysis strategies and the results for a period of more than four years.