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GPS site movements detected in NE Bohemia, Central Europe

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The regional GPS network WEST SUDETEN, a part of the GEONAS – GEOdynamic Network of the Academy of Sciences of the Czech Republic, was established by the Institute of Rock Structure and Mechanics Academy of Sciences of the Czech Republic in 2001 in the north-eastern part of the Bohemian Massif. This geodynamic network consists of 11 sites on that six annual GPS epoch measurements in period of 2001-2006 were carried out. The 48-hour epoch data linked to 4 permanent EPN station observations created reasonable GPS data base for a preliminary evaluation of site movement velocities. General movement pattern over the network has been obtained and some regional and local movement relations among network sites were observed and discussed. Two-, three-, four-, five- and six-year combinations of the GPS dailyconstrained solutions were analyzed to ensure reliability of site movement velocities determination. Whole region under study displays three areas with relatively different movement trends. The northern area, the Krkonoše Mts. structural block, displays pronounce NW motion with respect to the central area that involves the Permian piedmont of the Krkonoše Mts. covered in its southern part by the Cretaceous sediments. Besides, conspicuous dextral movement along the Železné hory Mts. fault zone was detected too.