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Recent Geodynamics of the Bohemian Massif

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Latest studies of recent geodynamic motions going on fundamental geological structures of the Bohemian Massif are closely joined to geodetic satellite measurements, especially to permanent and epoch GPS satellite signal monitoring. For this reason the Institute of Rock Structure and Mechanics AS CR, v.v.i., established one countrywide Geodynamic Network of the Academy of Sciences (GEONAS) for the GPS permanent observations on 19 sites and three regional networks (East Sudeten since 1997, West Sudeten since 2001, Highlands since 2005) for the GPS annual epoch measurements on altogether 29 sites. The GEONAS sites are located in areas where possible geodynamic short- and/or long-terms motions are expected. As evident from names of the regional networks, a special attention was devoted to a detection of mobility trends along the Marginal Sudetic fault, the Hronov-Poříčí and Jílovice fault zones, the Železné hory Mts. fault zone, the Boskovice Furrow and faults in the West Bohemia area. The Jeseníky Mts. and the Drahaň highlands tectonic structures manifest mostly sinistral motions along the Sudetic (NW-SE) and Moravo-Silesian (NNE-SSE) faults and thrusts. The Krkonoše Mts. structural block displays relatively pronounce movements to the NW direction. The tectonic elements of the West Bohemia area display both horizontal and vertical movement trends. All these and other detected contemporary geodynamic movements will be presented and discussed. The research was funded by the Program AS CR for the Support of the Targeted R&D (Project No. 1QS300460551), the Czech Science Foundation (Project No. 205/05/2287) and the MEYS research programme (Projects LC506 and 1P05ME781).