Geophysical Research Abstracts, Vol. 9, 10735, 2007
SRef-ID: 1607-7962/gra/EGU2007-A-10735

Regional geodynamic network HIGHLAND, the Bohemian Massif

0.1 Z. Schenková, V. Schenk, F. Mantlík, M. Grácová, P. Kottnauer

Institute of Rock Structure and Mechanics, Academy of Sciences of the CR (PRI), V Holešovičkách 41, CZ – 182 09 Prague, Czech Republic, (zdschenk@irsm.cas.cz / Fax: +420 284680105 / Phone: +420 266009337)

To investigate recent crustal movements between northern and southern parts of Moravo-Silesian region of the Bohemian Massif and to find their relation to movements of structural blocks of Moldanubicum it was decided to establish a regional geodynamic network HIGHLAND. The network is placed between two regional geodynamic EAST and WEST SUDETEN networks, which have operated since 1997 and 2001, respectively and the Eastern Alps piedmont. Sites for monitoring GPS signals were chosen with respect of geological and geophysical materials. In spring 2005, specialists of the Institute of Rock Structure and Mechanics AS CR (PRI), inspected the south area of the Českomoravská vysočina highland. When relations with landowners had been clarified eight sites with concrete blocks were built in the Třebíč Massif, the Brno Massif, the Svratka anticline and the Moldanubian pluton. Concrete blocks have the rectangular shape with a base of 40x40 cm and a height from 60 to 100 cm. On their tops a steel plate with a screw thread for a GPS antenna was set. The concrete blocks are anchored with steel bars at bedrock. Two epoch 48-hours GPS measurements were realized in 2005 and 2006. GPS measurements were performed with Ashtech receivers equipped by geodetic, marine and choke-ring antennas, which were powered by 12V/165Ah batteries. Signals were recorded with sampling rate of 30 seconds. GPS monitored data were processed by the Bernese software v. 5.0. The first rather preliminary site movements were assessed and obtained values are discussed from the viewpoint of geological structure motions. The building the geodynamic network HIGHLAND and its operation are supported by the GA AS CR (Project No.

IAA300460507) and funds of the MEYS research programme (Project No. LC506).