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# Body-wave anisotropy as a diagnostics of varying upper mantle structure beneath the northern part of the Bohemian Massif

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Variscan belt in central Europe comprises a number of lithospheric blocks and tectono-stratigraphic units with different origin and affinity. The Bohemian Massif (BM), assembled during the collision of Laurasia (Laurentia-Baltica) and Gondwana as a part of the Armorican Terrane Assemblage. Geological studies recognized four distinctive crustal units forming the BM: Saxothuringian (ST), Teplá-Barrandian (TB), Moldanubian (MD) and Moravo-Silesian (MS). The last one, called often Bruno-Silesia, have a completely different geological history as a part of a separate microcontinent (see Winchester et al., 2002, for a review). The first pilot experiment for studying seismic anisotropy of the BM mantle lithosphere (MOSAIC, Plomerova et al., 2005) has found different mantle characteristics of the individual domains. The detailed tomographic and seismic anisotropy research of the deep structure of the BM has been proceeding in three following passive experiments: BOHEMA I (2001-2003; Plomerova et al. (2003), BOHEMA II (2004-2005) and BOHEMA III (2005-2006; Babuska et al., 2005). In this contribution we present initial results on anisotropy of the northern and northeastern parts of the BM, based particularly on shear-wave splitting evaluated from the broad-band recordings of the BOHEMA II array, and from permanent stations in the BM and its surroundings. While the fast shear waves are polarized in the E-W direction in the southern and western parts of the BM (Plomerova al., 2007), the NW-SE polarizations prevail in the northern and the northeastern parts of the BM, in general. However, similarly to the former region, the latter exhibits both the di-

rectional and regional variations indicating also a complex fabric and a domain-like structure of the upper mantle. Prevailing NW-SE orientations of the fast polarizations are more systematic in the MS domain in the east, whereas in the north-central part numerous null splits were detected. Nulls and the distinct variations of the evaluated splitting with the back azimuth reflect probably deep-seated boundaries between lithosphere domains with variable orientation of anisotropy. The study aims at delimiting boundaries or transitions of blocks of mantle lithosphere characterised by a consistent olivine fabric.