# 3D models of the crust beneath the Bohemian Massif (central Europe) from results of different seismic methods

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The deep structure of the crust beneath the Bohemian Massif has been studied with the use of data of several active experiments, e.g., CELEBRATION 2000, ALP 2002, SUDETES 2003, as well as with data from passive seismic experiments. Passive experiments BOHEMA I-III were designed to study deep structure of the lithosphere-asthenosphere system. The research also includes teleseismic velocity tomography of the upper mantle, which requires a detailed knowledge of the crust for crustal corrections. Therefore, we compiled models of the crust of the Bohemian Massif from results of reflection and refraction measurements, from converted phases (receiver functions) and partly also from dispersion of surface waves. We initially constructed several 3-D velocity models of the crust from different types of data. The analysis revealed distinct disagreements of Moho depths in dependence on different data sets and/or on seismic methods used. The greatest disagreement was found between results from wide-angle refraction measurements and from receiver function method, which attains as much as 8 km in western Bohemian Massif. Because we need one representative 3-D model of the crust to resolve the upper mantle structure beneath the region, we have compiled a plausible model of the crust using data weighted according to its conformity and avoiding local extremes. We also tested effects of crustal models on distribution of velocity perturbations in tomographic images of the upper mantle. An application of inadequate model of the crust, or ignoring crustal corrections, can create false velocity perturbations down to about 100 km.