

S-Velocity Structure beneath the Bohemian Massif from Monte Carlo Inversion of Seismic Receiver Function

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A b s t r a c t

The paper contains an analysis of *S*-velocity distribution in the crust and upper mantle beneath the Bohemian Massif, which is the second biggest Variscan outcrop in Europe. It occupies mainly the west part of Czech Republic and also part of south-west Poland and south-east Germany. We use data from 10 permanent stations set in the region. Some previous papers relate to the same scope but use linear methods to inverse receiver function. Our new approach involves Monte Carlo techniques for inversion procedure, which is more convenient and robust for such a non-linear task. The result of Monte Carlo inversion is compared with the previously achieved one. The obtained Moho depths vary from 29 km in the north-west part of the Bohemian Massif to 38 km in the south and south-east and are consistent with other papers. Some discrepancies occur in the middle and upper crust.

Key words: receiver function, inversion, Monte Carlo, *S*-velocity, crust, Bohemian Massif, neighbourhood algorithm.