



## **Crustal and upper mantle structure along the P4 profile in the TESZ based on receiver function analysis**

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Receiver function analysis has been used to investigate the crustal and upper mantle structure along the P4 profile in the TESZ area. During the passive part of POLONAISE'97 experiment 20 short-period seismic stations have been working continuously along the P4 profile for three weeks, while during the SUDETES 2003 experiment 32 short-period seismic stations have been working for four months. To improve the quality of receiver function the water-level parameter are calculated based on noise level and is changing with frequencies of signal for each events. We can see the distinct difference of the receiver function across the Teisseyre-Tornquist tectonic zone in Poland, from quite regular in Variscan part of profile and in Precambrian Platform to very complicated in Polish Basin. Synthetic receiver functions calculated for ray-tracing P-wave velocity model of P4 profile quite well explain the observed receiver functions and allowed to verify the  $V_p/V_s$  ratio beneath the stations. Using the lower parameter of Gaussian filter and move-out correction and migration methods a section of receiver functions along the P4 profile was also discussed to image the upper mantle structure, particularly the "410" and "660" km discontinuities according to global iasp91 model.