

TRANSALP: RESULTS FROM THE PASSIVE SEISMIC EXPERIMENT

Joern Kummerow, Rainer Kind & TRANSALP WORKING GROUP

In 1998 and 1999, a passive seismic array was operated along the TRANSALP deep reflection profile with an average station spacing of 5km. The 30 short-period instruments recorded for approximately 9 months.

We present results obtained from receiver function (RF) and shear wave splitting analysis. In the receiver function method, 3 component recordings of teleseismic events are processed to isolate *S* wave energy converted from incoming *P* waves at crustal and upper mantle discontinuities below the seismic network. A stacked N-S orientated RF section reveals the southward dipping European Moho. This converter can be traced continuously to about 20km south of the Pustertal Line, where it reaches a maximum depth of 55-60km. Moho signals are less clear

below the Dolomites. We interpret a weak, but coherent signal in about 40 km depth as the Adriatic Moho. Average crustal V_p/V_s ratios obtained by stacking Moho energy and its multiples range between 1.70 and 1.78.

Splitting parameters of *SKS* waves observed at the TRANSALP stations are calculated to investigate anisotropy of the mantle at the transition between European and Adriatic plate.

Authors' address:

Joern Kummerow, Dr. Rainer Kind, GeoForschungsZentrum Potsdam, Telegrafenberg, 14473 Potsdam, Germany, joern@gfz-potsdam.de