



First arrival time tomography for a near vertical reflection seismic profile in the Kaokoland region in Northern Namibia - first results

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Within the LISPWAL project (part of the SAMPLE SPP), in 2012 a Near Vertical Reflection (NVR) Seismic profile was generated in the Kaokoland region in Northern Namibia. 150 (25kg) controlled source shots at ~1350 m spacing were conducted along a 200 km North-South profile. A spread of 300 seismic stations, spaced 100 m apart, was moved in a roll-along style, to collect data suitable for standard reflection seismic processing and first arrival time tomography. Travel time data of seismic phases are used as input data to derive shallow velocity models of compressional waves (P), shear waves (S) and the V_p/V_s ratio. Using First Arrival Seismic Tomography (FAST) software, we derive shallow tomographic models for the upper 1 to 1.5 km. All three models are characterized by significant differences between the northern and the southern part. In the south P- and S-velocities are higher and V_p/V_s ratios lower while in the north the P- and S-velocities are lower while the V_p/V_s ratios show higher values.