

1D VELOCITY MODELS IN GEOLOGICAL UNITS OF THE BOHEMIAN MASSIF BASED ON PROCESSING AMBIENT SEISMIC NOISE

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Long-term recordings of seismic noise (covering the time period of 2001-2012) from 88 stations distributed on the territory of Czech Republic and close surroundings were processed by standard cross-correlation technique. Resulting station-to-station correlograms were analyzed with respect to extraction of both phase and group velocities of Rayleigh and Love waves. These path-averaged velocities were grouped into subsets containing rays traveling exclusively inside a particular geological unit. In total, 5 geological units were considered (Saxothuringian, Moldanubian, Teplá-Barrandean, Sudetes, Moravo-Silesian). Finally, local dispersion curves corresponding to the selected geological units were inferred by averaging and then inverted jointly (i.e using Rayleigh+Love waves, group+phase velocities) to provide local 1D layered representations of the geological environment. The applied method is an alternative way to get viable information concerning the velocity structure of the Earth in a regional scale.