



Minimum 1-D P-wave velocity reference model for Northern Iran

Meysam Rezaeifar (1), Tobias Diehl (1,2), and Edi Kissling (1)

(1) ETH Zürich, Switzerland (mhmr20@gmail.com), (2) ETH Zurich, Swiss Seismological Service, Switzerland

Uniform high-precision earthquake location is of importance in a seismically active area like northern Iran where the earthquake catalogue is a prerequisite for seismic hazard assessment and tectonic interpretation. We compile a complete and consistent local earthquake data set for the northern Iran region, using information from two independently operating seismological networks, Iran Seismological Center (IRSC) network, administered by the Geophysical Institute of Tehran University, and Iran Broadband network administered by International Institute of Engineering Earthquake and Seismology (IIEES). Special care is taken during the merging process to reduce the number of errors in the data, including station parameters, event pairing, phase identification, and to the assessment of quantitative observation uncertainties. The derived P-wave 1D-velocity model for Northern Iran may serve for consistent routine high-precision earthquake location and as initial reference model for 3D seismic tomography.