

Moment Tensor Inversion of Earthquakes in Turkey and Surroundings by Using Site-Specific Velocity Models

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Turkey and its surrounding regions are tectonically active and have high-seismicity rates. The seismicity in the region is observed by the national networks of the Kandilli Observatory and Earthquake Research Institute, KOERI, and the Disaster and Emergency Management Presidency Earthquake Department, AFAD. The quality and quantity of seismic stations improved significantly after the 17 August 1999 Mw 7.4 Izmit earthquake. In the meantime, a number of focal mechanism catalogs were produced, covering different time periods. In this study, we perform a systematic MT inversion of earthquakes within Turkey between 2008 and 2015, using the dense seismic networks of KOERI and AFAD. The use of combined networks and sitespecific velocity models for the computation of MT inversion results in high-quality solutions of focal mechanisms. This homogeneous focal mechanism catalog provides important new information on the seismotectonics in this region.

Keywords: Earthquake, Seismicity, Moment Tensor Inversion