



## **Determination of the accurate hypocenters and minimum one-dimensional velocity model for the Marmara Region, Turkey**

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Marmara region is located on the easternwest part of Turkey. The North Anatolian Fault Zone (NAFZ) is the most active fault system in Turkey and the Marmara Region is located on the western part of the NAFZ. Two destructive earthquakes occurred in 1999, related with the NAFZ (17 August 1999 Izmit Earthquake ( $M_w=7.4$ ), and 12 November 1999 Duzce Earthquake ( $M_w=7.1$ )). Therefore, the data obtained from the IZINET seismic network, which is operated by the Bogazici University Kandilli Observatory and Earthquake Research Institute (KOERI) between the 1993-2005 is used for determination of one-dimensional velocity model of the studied region. IZINET is the only seismic network working before and after the Izmit and Duzce Earthquakes. The network consists of 13 seismic stations which are equipped with vertical seismometers with natural frequency of 1 or 2 Hz. We used 672 earthquakes recorded by this network. We calculated an hybrid one-dimensional velocity model from previous studies for the Marmara Region and used this model to relocate the earthquakes. We aimed to determine accurate hypocenters and the minimum one-dimensional initial reference velocity model parameters, including stations corrections for the Marmara Region. For future studies, three-dimensional tomographic inversion is planning to be performed for the Marmara region by using double-difference algorithm.