



## **Seismotectonics of the May 19, 2011 Simav- Kutahya Earthquake Activity**

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Aftershock sequence of May 19, 2011 Simav earthquake ( $M_w = 5.8$ ) is relocated with a new 1-D seismic velocity model and focal mechanisms of largest aftershocks are determined. The May 19, 2011 Simav-Kutahya earthquake is occurred in the most seismically active region of western Turkey. During six months after the mainshock, more than 5000 earthquakes are recorded and aftershocks followed over a period of almost two years. In this study, more than 7600 aftershocks occurred between years 2011 and 2012 with magnitudes greater than 1.8 relocated. Waveform data is collected by 13 three component seismic stations from three different networks (Kandilli Observatory and Earthquake Research Institute (NEMC-National Earthquake Monitoring Center), Prime Ministry Disaster and Emergency Management Presidency, Department of Earthquake and Canakkale Onsekiz Mart University Geophysics Department). These seismic stations are deployed closer than 80 km epicentral distance in the Simav-Kutahya. Average crustal velocity and average crustal thickness for the region are computed as 5.68 km/sn and 37.6 km, respectively. The source mechanism of fifty aftershocks with magnitudes greater than 4.0 are derived from first motion P phases. Analysis of focal mechanisms indicate mainly normal fault motions with oblique slip.