An Investigation of KOERI Seismic Network and Earthquake Catalog

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Seismicity catalogs are the most important product of seismic network operating centers, especially for the earthquake hazard studies. Understanding the nature of regional catalogues has primary importance in shedding light on statistical parameters of the seismicity behavior of that given region. It is a well-known truth that man made inhomogeneties and artificial facts exist in the catalogs due to the change of infrastructure with time. Precisely determined earthquake parameters are important not only for understanding the seismicity and seismotectonics of a region but also for providing an accurate estimation of seismic hazard and risk parameters. In this study, we present an evaluation of Kandilli Observatory and Earthquake Research Institute (KOERI) seismic network and seismicity catalog. We mapped the magnitude of completeness, Mc, for Turkey for the KOERI catalog. We compared the results with the Mc values of different local earthquake sequences in the region, by also considering the variations of Mc with time. Results of the study will be a reference guide for researchers who benefit from KOERI data.