A seismological database for Egypt including updated seismic and focal mechanism catalogues


Abstract:

The instrumental earthquake records in the last decades indicate the general seismicity of the Earth. However, examining and inspecting the historical records plus the instrumental recorded events is necessary to understand long-term seismicity. Regional seismic and focal mechanism catalogues provide critical information for different seismological investigations, including seismic hazard assessments and seismotectonic studies. The present study aims to prepare three new digital and up-to-date databases for Egypt for earth scientists so that the earthquake parameters can be reached from a single source. The first dataset is a historical earthquake catalogue, which includes parameters of the earthquakes occurring between 2200 B.C. and 1899 A.D. This database contains about 340 events. The second dataset, an instrumental earthquake catalogue, includes the entire earthquake events taken place in and around Egypt spanning the period from 1900 to 2013 in a homogeneous magnitude scale. The last dataset is a focal mechanism solutions catalogue, which contains the fault plane solution parameters of the destructive earthquakes occurring between 1951 and 2013. All available mechanism solutions (published and unpublished) of the available earthquakes were collected.

Keywords:

Seismological database, Earthquakes, Focal mechanism, Egypt

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