

Relocation of Seismicity in Northern East of Egypt: Contribution of Different Regional Seismic Networks

The North East of Egypt is considered the most active seismotectonic region in Egypt, having geologically and seismotectonically complicated structures with moderate seismic activity. The seismic activity was not located properly due to the lack of observations. Even with re-picking all earthquakes above 2.5 and increasing the total number of phases involved in location by (24.1%), using only the data of the Egyptian National Seismic Network (ENSN) will still drives large azimuth gap. As the data of Egyptian National Seismological Network (ENSN) is not enough, Adding data recorded by the Seismic networks of the surrounding countries and International Seismological Center (ISC) was accomplished. Additionally, the Wadati diagram (Novotny, 2016) and the least square methods were applied to enhance the phase picking reliability and reduce its time residuals by minimizing the horizontal and the vertical errors. In comparison with the previous studies conducted on the same area our results give clear image of the tectonic setting of the study area. The obtained new locations will be used for computing the three dimension velocity model Sinai Peninsula, and a direct contribution for further seismic hazard assessment study in the study area also can be provided.

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