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Recent Improvements on the Broadband Seismic Network of Iran (Implementing tuned Seiscomp3 and Automatic Online Moment Tensor Inversion)

Wednesday 26 June 2019 20:00 (15 minutes)

Iran plateau is known as one of the highest seismic active regions in the world. Therefore, it is very important to know quickly about the location and the source mechanism of large earthquakes. The broadband seismic network of Iran was established since 1998 with 4 broadband seismic stations by International Institute of Earthquake Engineering and Seismology (IIEES). During last few years the total number of active seismic stations reaches 28. This number is expected to be increased up to 48 stations by the end of 2030. The increasing amount of seismic data receiving by the IIEES Data Center, has taken us to install and use the Seiscomp3 as an acquisition system to process the real-time data since 2017. Seiscomp3 leads to decreasing the time of 25 minutes manual event location to 5 minutes automatically. Moreover, we have utilized the Automatic Online Moment Tensor Inversion code (AOMTI) successfully, since 2018. Within 30 min after occurrence of an event with Mw > 4.5, the AOMTI starts to calculate the source. The final results including main-shock epicenter, last one month seismicity, focal mechanism, and waveform fits as a map will be sent immediately to predefined organizations.

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