



The performance review of EEWS(Earthquake Early Warning System) about Gyeongju earthquakes with MI 5.1 and MI 5.8 in Korea

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EEW(Earthquake Early Warning) service to the public has been officially operated by KMA (Korea Meteorological Administration) from 2015 in Korea. For the KMA's official EEW service, KIGAM has adopted ElarmS from UC Berkeley BSL and modified local magnitude relation, 1-D travel time curves and association procedures with real time waveform from about 201 seismic stations of KMA, KIGAM, KINS and KEPRI.

There were two moderate size earthquakes with magnitude MI 5.1 and MI 5.8 close to Gyeongju city located at the southeastern part of Korea on Sep. 12. 2016.

We have checked the performance of EEWS(Earthquake Early Warning System) named as TrigDB by KIGAM reviewing of these two Gyeongju earthquakes.

The nearest station to epicenters of two earthquakes MI 5.1(35.7697 N, 129.1904 E) and MI 5.8(35.7632 N, 129.1898 E) was MKL which detected P phases in about 2.1 and 3.6 seconds after the origin times respectively. The first events were issued in 6.3 and 7.0 seconds from each origin time. Because of the unstable results on the early steps due to very few stations and unexpected automated analysis, KMA has the policy to wait for more 20 seconds for confirming the reliability. For these events KMA published EEW alarms in about 26 seconds after origin times with M 5.3 and M 5.9 respectively.