

Preliminary study on far field EEW for high technology facility from long period seismic wave

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Earthquake early warning (EEW) is an efficiently way to reduce economic loss for high-tech facility during earthquakes. Traditionally EEW could provide intensity warning for each individual sites, some of the testing EEW system (on-site EEW) had already operated for several factories in Taiwan. Experiences showed the intensity warning systems are not enough in some cases from customer demands. These severe damage cases for high-tech factories usually came from far-field large earthquakes and accompany with low peak ground acceleration (PGA) that the intensity warning system will not alarm. Therefore, far-field earthquake early warning purpose will be developed owing to possibility of facility damage from low-amplitude long-period seismic wave in this study. A broadband seismic network constructed from National Center on Research Earthquake Engineering (NCREE-net) will be tested first. First priority of facing this kind of situation will be focusing on checking dominant period range, possible damage caused from long duration time and possibility of constructing warning level based on energy of long-period waves. Finally, more information could be operated during the first few seconds during earthquakes for EEW system in the future.

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