

Implementation of Frontier Technology for Seismic Protection (Session Hosted by JAEE)
S05-03 Earthquake Early Warning System

Convener:

Masato Motosaka, Professor, Tohoku University

Yukio Fujinawa, Senior Managing Director, Real-time Earthquake Information Consortium

Description:

Japan Association for Earthquake Engineering (JAEE) is pleased to propose hosting special sessions for the 14th World Conference on Earthquake Engineering. The sessions address progress of frontier technologies to effectively mitigate seismic disaster. One of the most significant examples of such technologies would be the base-isolation scheme for buildings that controls both seismic accelerations and story drift of the superstructure. Another would be the passive control that is known to be an alternative effective scheme for a wide range of building types such as tall buildings, large span structures, and residential houses. Currently most major buildings, and even many individual houses in Japan utilize either of these schemes. The other scheme, which is rapidly growing and can significantly benefit the society would be the early earthquake warning system. The system will be brought into actual use nationwide in Japan from October 2007.

This proposed session refers to the third scheme mentioned above. Because Japan has made significant progress in this field, JAEE would like to take a liberty of hosting the session called "Part 3 - Earthquake Early Warning System". Explanations on the background and contents of the session follow: Recent development in earthquake engineering research and construction of seismic dense network made it possible to issue earthquake warning message. Before the arrival of big seismic waves of several to several tens seconds the warning (Early Earthquake Warning: EEW) arrived and make it possible to take emergency countermeasures for safety of human life, buildings, infrastructure, transportation including any other objects effected by seismic shock. Such a system is going to be practically used in Japan nationwide from October 1, 2007. Development has been conducted with cooperation of government, academic community and non-government organizations including private companies. In the proposed session general items and particular items concerning EEW for each country are welcome to be discussed, such as rapid analyses algorithm and system, information transmission including security, application systems used at users, information accuracy, negative effects and responsibility, and further development.