

A social experiment of a new strong-motion monitoring system (Kyoshin Monitor) with earthquake early warning

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In August 2008, NIED started "Kyoshin Monitor" that is a web service providing live maps of earthquake shaking in Japan. After the 2011 Tohoku Earthquake (M9), the number of people accessing the Kyoshin Monitor has soared, and the system has been drawing the attention of both experts and the general public. The JMA's earthquake early warning system for the 2011 Tohoku earthquake was not able to issue a warning that covered a sufficient spatial extent due to an underestimation of the earthquake magnitude. As a result, methods for detecting massive earthquakes based on the distribution of the observed strong-motion data have been examined as a system independent from the earthquake early warning system.

We consider that the combination of the earthquake early warning system as the latest forecast, and the Kyoshin Monitor as the observation is important in mitigating earthquake damage, thus we have developed a new Kyoshin Monitor that can provide the combined information (hereafter referred to as the "Trial Version Kyoshin Monitor").

In this research, a social experiment of the Trial Version Kyoshin Monitor has been carried out with the general public, and questionnaires were used to collect information on the background and motivation for using the Kyoshin Monitor, opinions on the version used, use status, usability, and other appropriate items, aiming to understand the public's needs for the delivery, use and utilization of strong-motion observation information in the future.

The social experiment was implemented through a limited online publication of the Trial Version Kyoshin Monitor to experiment participants following user registration. Public participation was invited thrice between September and October in 2012 through a social experiment website (<http://www.kmoniexp.bosai.go.jp/>), obtaining a total of approximately 4000 participants.

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