

## Deployment of new strong-motion seismographs of K-NET in the East Japan.

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The National Research Institute for Earth Science and Disaster Prevention (NIED) operates K-NET (Kyoshin Network), the national strong-motion observation network, which evenly covers the whole of Japan at intervals of 25 km on average with over 1,000 observatories. NIED has been deploying new strong-motion seismographs at observatories of the K-NET in order to construct a real-time strong-motion network from FY2003. NIED has deployed new strong-motion seismographs at 467 observatories of the K-NET in the East Japan in FY2005. We report a summary of these replacements.

NIED has deployed new strong-motion seismographs at 467 observatories of the K-NET in the East Japan (Hokkaido, Tohoku-region, Niigata, Toyama, Gunma, Tochigi, Ibaraki, Saitama, Chiba, Tokyo, and a part of Kanagawa) in FY2005. The total number of deployments of new strong-motion seismographs in FY2005 and FY2003 is 910. Deployments in the other regions (Fukuoka, Saga, Nagasaki, Kumamoto, Kagoshima and Okinawa) are under planning.

The new strong-motion seismograph (K-NET02A) consists of three modules of a sensor module, a measurement module, and a communications module. It connects with a data center through an ISDN line. The main features of a new strong-motion seismograph are functions for processing JMA seismic intensity and near real time data communications. Although the strong-motion seismograph currently used (K-NET95) does not calculate seismic intensity, a K-NET02A functions as a formal seismic intensity meter which suited the official approval of the Japan Meteorological Agency. When a K-NET02A detects a strong-motion, it will communicate with a data center automatically in dozens of seconds. Specification of K-NET02A is almost same as that of K-NET02 which was deployed in FY2003. A major difference of K-NET02A and K-NET02 is an accelerometer used in a sensor module. However, which sensors are used does not matter to normal uses because recording characteristics of K-NET02 and K-NET02A are defined by A/D converters, not by sensors.

NIED selected JA-40GA04 as an accelerometer of K-NET02A. JA-40GA is a high performance accelerometer for precise strong-motion observation which has been developed by Japan Aviation Electronics Industry, Ltd (JAE). JA-40GA04 was derived from JA-5V as known as a very stable accelerometer. JAE employs a quartz-flexure which stabilizes DC response of an accelerometer as a part of mechanical system of JA-40GA. Thus, K-NET02A will decrease occurrences of a step-like noise which often disturbs a strong-motion record.