

The electro-optical distance measurement result and its feature in Hakone and Odawara areas

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At the Hakone area, we built the observation network using electro-optical distance meter (EDM) and we started measurement from 1992 in order to carry out the monitoring of the volcanic activity. The network consists of six baselines, and those baselines are lengths ranging from about 1.2km to 3.5km. When swarm earthquakes of Hakone generated from June, 2001, a significant baseline length change was observed. It is considered to have been caused by uplift movement in the central cone of the Hakone volcano (Tanbo and Tanada, 2002).

At the Odawara area, we built the observation network using EDM and we started measurement from 1994 in order to detect the pre-, co- and post-seismic deformation of 'Western Kanagawa Prefecture earthquake', which is considered to occur in the near future. The network arranges six baselines covering the assumed seismic region and Kozu-Matsuda fault. Those baselines are length ranging from about 3.7km to 11.4km. The observation result have seasonal variation, which is 5 cm change at the maximum. But the result of continuous observation is stable for a long period.

Both networks are using the EDM observation system developed by Tsuneishi (1990). Continuous and automatic measurements are possible by this system. Measurement is performed for every hour in all baselines. In this report, we clarify the stationary state and temporal change of strain field around Hakone and Odawara regions using the continuation observation data (1 hour sampling) of EDM network.