

Recent Activity of Deep Low-Frequency Earthquakes Beneath the Yake-dake Volcano, Central Japan.

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A swarm activity of deep low-frequency (DLF) earthquakes has been observed since January 2004 near the Yake-dake volcano, Hida mountain range, central Japan. A seismic activity of shallow ordinary earthquakes took place on December 30, 2003 at about 5 km NNE of the summit of the Yake-dake volcano, which was followed by the DLF activity.

DLF activity started on January 6, 2004 and activated in February, March, and December. In the early stage of the activity, most events were isolated type ones, however there were many tremor-like events whose durations were more than 10 minutes in the activities in February, March, and December. They are located at the depth range of 10 km - 30 km at the WNW flank of the Yake-dake volcano.

We also investigated the tilt record observed in the hypocentral area of the DLF events and found that no tilt changes larger than 0.1 micro radian were observed associated with the DLF activity.

The DLF activity observed in 2004 is the most intense DLF activity within the past 10 years and possibly indicates the increase of the magma activity. It is important to investigate crustal deformation data as well as seismic data to monitor the magma activity beneath the Yake-dake volcano.