

Vp/Vs ratio and its fluctuation in the Kuju geothermal area, Kyushu, Japan

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The northwestern area of Kuju volcano is one of the most active geothermal fields in Japan, where seismic activities including seismic swarms have been observed. In this area, we studied microearthquakes during a period November 1995 to May 1998 from the point of view of the ratio of P- to S-wave velocities (V_p/V_s) and m-value. The results are as follows; earthquakes having high V_p/V_s value were observed mainly at the shallow part (above 1.5km below sea level) and along NW- and NE-trending fault. V_p/V_s and m value change with time. V_p/V_s and m value are low before the seismic swarm, and after the event high. Such seismic activities are thought to be affected by the presence of water, because the studied area are rich in fractures and geothermal water.