3-D crustal structure around the Hakone volcano, northern part of Izu peninsula

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3-D seismic reflection and refraction experiment was carried out in Hakone volcanic area. The Hakone volcano region is one of the famous hot spring areas in Japan. But the volcanic eruption of the Hakone volcano was not found during our human history.

Main purpose of our studies is to determine the velocity structure around this area using the tomography processing. We deployed about 50 temporal seismic stations and online cable multi channels system. The observation coverage was 20 km around. We think that the high dense seismic observation is useful to identify and locate the low velocity zone around observation area.

As the data processing of our tomography, low velocity zone was identified only in surface part of Hakone old caldera. As the result of wide-angle reflection survey using explosive shots, we could not identify the remarkable reflector in deeper crust, and we could not identify the other low velocity zone as far as 32 km depth including the results of other study. In other words, magma has not been supplied to Hakone volcanic area any longer.