Seismic exploration of Iwate volcano with active sources in 2000: Three dimensional P wave velocity structure

Satoru Tanaka[1], Hiroki Miyamachi[2], Tomoki Tsutsui[3], Norimichi Matsuwo[4], Jun Oikawa[5], Takao Ohminato[6], Kazuki Miyaoka[7], Takehiko Mori[8], Shin'ya Onizawa[9], Teruo Yamawaki[10], Koji Aizawa[11], Hiroyuki Hamaguchi[12], Research Group for Seismic Exploration at Iwate Volcano Hiroyuki Hamaguchi

[1] Graduate School of Sci. Tohoku Univ, [2] Earth and Environmental Sci., Kagoshima Univ., [3] Akita Univ., [4] Shimabara Earthq. and Volcano Observatory, Kyushu Univ, [5] ERI, Univ. of Tokyo, [6] ERI, [7] JMA, [8] KSVO, [9] ISV, Hokkaido Univ., [10] Graduate School of Sci., Tohoku Univ, [11] Earth and Planetary Sci., Nagoya Univ, [12] Res. Centr. Pred. Earthq. Volc. Erupt.,Grad. Sch. Sci., Tohoku Univ.

We have revealed three-dimensional P wave velocity structure of Iwate volcano, northeastern Japan. 2678 travel times are obtained from a seismic exploration using active sources. Pseudo-bending method for ray tracing and the damped least square for the inversion are applied to the travel time data. The most prominent feature found in the tomographic image is a column-like shaped high velocity body (Vp is greater than 5.6 km/s) protruding vertically 2 km length beneath the crater. A moderate high velocity region (Vp is greater than 5.0 km/s) extends eastward from the column-like high velocity body. The western part of the volcano from the crater is occupied by a moderate high velocity region.