

# Determination of 2D Subsurface Structure of Sakaiminato City in Tottori Prefecture, Japan

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At the 2000 Tottori-Seibu earthquake, a strong seismic intensity area was appeared in Sakaiminato City, Tottori Prefecture, Japan. Explorations using surface-wave and microtremor were carried out in the same area to investigate a cause of the appearance of strong seismic intensity.

We observed the surface-wave at 2 lines (A-Line and B-Line), about 1km length. The 2 lines were crossed the strong seismic intensity zone. For surface-wave observation, McSEIS-SXW, CDP switch box and 24 geophones, natural frequency 4.5Hz, were used. We hit a ground surface and recorded surface-waves by 24 geophone. Geophones were set at 2m interval and sampling frequency was 1000Hz for records. S-wave velocity structure cross-sections of 2 lines were obtained by CMP analysis and 2D inversion. Array microtremor observations were carried out at the same lines of surface-wave observation. For the array microtremor observations, 5 seismometers, GPL-6A3P, were used. We observed 2-site microtremors at 4 sections, 3, 10, 30, 60m interval, using 5 seismometers and repeated the same observation at the 18 sections. 1D S-wave velocity structures were obtained by analysis using 2-site SPAC method.

The 2D S-wave velocity structures to the depth of 15m were as follows. A-Line is a gradual increase from surface layer  $V_s=150\text{m/s}$  to bottom layer  $V_s=200\text{m/s}$ . B-Line is 2-pattern structures. A surface layer is low velocity, about 120m/s, at North area and high velocity, about 170m/s, at South area. The strong seismic intensity zone consists in the low velocity area.