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Determination of Subsurface Structure around Tottori Sand Dunes Using Microtremor Observations and Gravity Surveys

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Microtremor observations and gravity surveys have been carried out in Tottori plain and determined a subsurface structure by Noguchi et al. (2002). In the report, bedrock depth was shallow in Tottori sand dunes area. The bedrock configurations will have an effect strong ground motions. In this study, subsurface structure around Tottori sand dunes was determined by using microtremor observations and gravity surveys. We carried out microtremor array observations at 3 sites, microtremor 3-components observations at 184 sites and gravity surveys at 33 sites. S-wave velocity structures and distribution map of H/V predominant period were obtained from microtremor records. A 3-dimensional bedrock density structure was obtained from gravity survey records.

Keywords: Microtremor observation, S-wave velocity structure, H/V, Gravity survey, bedrock structure, Tottori sand dunes