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Seismic array observation at Nagatani dam site

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We carried out a seismic array observation in Nagatani dam site, Fukuoka City, Kyushu, Japan. This area are located at about 15 km away from the focal area of the 2005 West Off Fukuoka Prefecture Earthquake. Recent studies about heterogeneous structure around the focal area found strong scatteres at the SE part of the fault and the SE-extension of the fault. The part where strong scatterers exist corresponds to segment boundary between the earthquake fault and the Kego fault. However, the structures of the SE-extension have not been revealed in detail in the previous studies because of less resolution in this area. In order to investigate the inhomogeneous structures around the Kego fault, we need to obtain seismograms with high S/N ratio. The purpose of this observation is that we attempt to image distribution of scatteres around the Kego fault by dense seismic array.

We carried out the array observation from August 30 to November 25, 2010. This array covered 620 m in the EW direction and 650 m in the NS direction. We installed 67 temporary seismic stations in the site. The array was composed of 2-Hz three-component seismometers with a site spacing of about 20 m. They were installed on 5 lines owing to the topography around the dam site. The lines consisted of 4, 11, 6, 24 and 22 stations, respectively. The sampling frequency was 250 Hz. More than 60 earthquakes were recorded during this period with good S/N ratios. By using these data, we will estimate scatteres around the Kego fault.

Keywords: seismic array