

STT073-P03

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Seismic array observation at galleries in Nakatatsu mine

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We carried out seismic array observation in mining tunnels of Nakatatsu mine, Fukui, Japan. This observation site is located at 20 kilometer away from the earthquake fault of Nobi earthquake (18 91, M8.0). The major purposes in this observation are 1) detection of small-scale heterogeneity around the fault and 2) development of technique to explore structure by using seismic array data. Eighty seismometers which have three components with natural frequency of two hertz were deployed. The observation continued from September, 2009 until middle of February, 2010. The sensors were connected to recording system by cables. The data were converted to digital data by 24bit delta-sigma converter with maximum sampling interval of 1 ms and extracted from memory to storage by self-triggering algorithm in the system. The recording time is 16 ? 64 sec. More than 100 earthquakes were recorded in the observation. We got seismograms of not only local earthquakes but also distant earthquakes. The good environment for observation with hard rock site and low artificial noise allowed us to obtain high quality data. Some records of earthquakes have enough good S/N ratios until 150 hertz.

Keywords: seismic array, Nakatatsu mine