

Physical properties of the Nojima fault fracture zone -Well logging in the Hirabayashi NIED borehole-

Kentaro Omura[1], Ryuji Ikeda[1], Yoshihisa Iio[2], Takashi Arai[3], Kenta Kobayashi[4], Koji Shimada[5], Hidemi Tanaka[6], Tomoaki TOMITA[7], Satoshi Hirano[8], Tatsuo Matsuda[1]

[1] NIED, [2] ERI, [3] Fac. of Sci., Sinshu Univ, [4] Grad. Sch. Sci. & Tech., Niigata Univ., [5] Inst. Earth Sci., Waseda Univ., [6] Dept. of Geo/Biospheric Sci., Ehime Univ, [7] Geoscience Inst., Univ. of Tsukuba, [8] Front. Res. Prog. Subduct. Dynam., JAMSTEC

After the 1995 Hyogo-ken Nanbu earthquake, the Hirabayashi NIED borehole was drilled penetrating through the fault zone besides the surface trace of the Nojima fault and the physical well logging was done down to a 1838m depth. Collected cores included remarkable fractured zones containing cataclastic rocks at three depths, around 1140m, 1300m and 1800m. Well logging data in the depth interval of the fracture zone show remarkable decrease or increase compared to the depth interval of host rocks in normal resistivity, micro resistivity, P wave velocity, density and neutron porosity; from several hundreds - several thousands to several tens ohm-m, from several tens to several ohm-m, from 5 - 6 to 2 - 4km/sec, from 2.6 to 1.5 - 2.0g/cm³ and from several to several tens %, respectively.