

## Permeability structure of Nojima fault : analyses of Funaki outcrop in Hokudan, Hyogo Prefecture

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Nojima fault-zone at an outcrop in Funaki, hokudan-cho, Tsuna-gun, Hyogo Pref., consists of 30-110 mm thick clayey fault gouge and about 1.2 m thick granitic fault breccia. We measured permeability of these fault rocks and granite and sandstone constituting the country rocks using the oscillation method with nitrogen pore pressure at effective pressures  $P_e$  to 100 MPa. Permeability  $k$  of clayey fault gouge markedly decreases with increasing  $P_e$  and is below  $10^{-18}$  m<sup>2</sup> at  $P_e = 100$  MPa, and tends to stay at about the same level upon reduction in  $P_e$ . Fault breccia remains fairly permeable with  $k$  on the order of  $10^{-15}$  m<sup>2</sup> at  $P_e$  to 100 MPa. Results will be discussed in relation to high-velocity friction of faults.