

Permeability of Rocks of Melange:example from the Mugi Melange, Tokushima, SW Japan

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Permeability of the black shale collected from the Mugi melange was measured at effective pressure to 54 MPa using distilled water as pore fluid.

Mugi melange is located at the northern side of the ATL(Aki Tectonic Line) in the eastern coast of Shikoku Island

We analyzed the dependency with effective pressure and the anisotropy of the permeability of the specimen. It is important to measure permeability of the rock specimen under proper confining pressure for estimate of the permeability structure at depth.

We attempted three methods to measure permeability; Steady State Flow method, Transient Pulse method and Oscillation method.

The measured permeability ranged from about 2×10^{-19} to 2×10^{-21} [m²], and permeability perpendicular to foliation was about 1 order of magnitude lower than that parallel to foliation.