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## Anomalous fluid pressure developed by permeability contrast in subduction zones

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Low-frequency tremor and slow-slip events mostly located at depths of 35-40 km, where the subducting plate meets the island arc Moho (Shelley et al. 2006). Such regions are characterized by low velocity anomaly and high Poisson ration, suggesting the presence of serpentine with excess aqueous fluids (Matsubara et al. 2009). This can be resulted of back stopped fluid migration at the island arc Moho due to the permeability contrast between serpentinite and gabbro. The excess fluid pressure could cause a stick-slip type unstable sliding of serpentinite, and may trigger the slow earthquake at the tip of mantle wedge.

Keywords: slow earthquake, fluid pressure, permeability, gabbro, Moho, subduction zone