## Comparison between timescales on formation of quartz-filled shear veins and slow earthquake cycle in the Makimine mélange of the Shimanto accretionary complex, SW Japan

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Geophysical observations have suggested that fluid played an important role on the generation of slow earthquakes. However, geological conditions and deformation processes related to slow earthquakes remain unclear. Quartz-filled shear veins are commonly observed in accretionary complexes exhumed from the source depths of shallow slow earthquakes (less than 15 km). Crack sealing associated with quartz precipitation is expected to contribute decreasing of rock permeability and increasing of fluid pressure, which may induce slow earthquakes. However, the timescale between crack sealing and slow earthquake cycle has been unknown. In this study, we examined and calculated kinetics of quartz precipitation and compared the timescales of formation of quartz-filled shear veins and slow earthquake cycle in the Makimine mélange of the Shimanto accretionary complex, southwest Japan.

Keywords: Quartz-filled shear vein, Kinetics, Sealing time of crack, slow earthquake cycle