



## **Behaviors of small heterogeneity controlled by surrounding aseismic slip**

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Numerical simulations of slow slip events on a fault interface characterized by multi-scale heterogeneity (fractal patch model; Ide and Aochi, JGR, 2005; Ide, Proc. Jpn Acad. Ser. B, 2014) are carried out, supposing that characteristic distance in the slip-dependent frictional law is scale-dependent. We also consider slip-dependent stress accumulation on patches prior to the weakening process. Slip on small patches is enhanced significantly when background is releasing stress in the case of two patches model. Slip behaviors becomes complex when fractal patch model is considered. It is then difficult to detect the accentuation of slips on small patches. On the other hand, they are quiet (detectable statistically) when background slip is characterized by strengthening process.