

Linking tectonic tremor activity to fluid circulation

Implication of fluids

- Pore pressure pulses weaken plate interface, allow slow slip, triggers LFEs
- No direct observations of fluid flow

Can we use LFE activity to characterize fluid circulation at depth?

Modeling tremor sources in a pore-pressure-diffusive system

Earthquake source: simplistic fault valves

Extremely concise description
of how fluid circulation is
modeled

Seismic events are **triggered** by
fluid circulation and **affect it**

*#Animation of a valve cycle,
showing: **variation of**
permeability, **pore pressure**
profile, and **mass flux**#*

Creates interactions, can patterns emerge from it?