



The feasibility of generating low frequency seismicity by flow through a deformable channel

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Oscillations generated by flow of magmatic or hydrothermal fluids through tabular channels in elastic rocks are a possible source of low frequency seismicity. We assess the conditions required to generate oscillations of ~ 1 Hz via hydrodynamic flow instabilities, flow-destabilized standing waves set up on the channel walls, and unstable normal modes ringing in an adjacent fluid reservoir. Flow destabilized modes offer the most plausible explanation, but there are limitations on what kind of standing waves comprises them.