

Solid Earth Discuss., author comment AC5  
<https://doi.org/10.5194/se-2021-100-AC5>, 2021  
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## Reply on RC3

David Healy and Stephen Paul Hicks

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Author comment on "De-risking the energy transition by quantifying the uncertainties in fault stability" by David Healy and Stephen Paul Hicks, Solid Earth Discuss.,  
<https://doi.org/10.5194/se-2021-100-AC5>, 2021

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Thanks again for the comments.

We agree that the formal definition of slip tendency does not include pore fluid pressure. The question then is: is it *useful* to modify the normal stress term by subtracting the pore fluid pressure to get an 'effective normal stress', and an 'effective slip tendency'.

In our opinion, the power of the original definition of Ts is how it can be related to the friction coefficient at the fault surface. That is, the slip tendency, a function of the stresses on the fault plane, can be compared to the rock properties (the friction coefficient), and an assessment of stability can be made. It is not clear how this works for 'effective' terms. Effective friction?

Therefore, to separate frictional processes from hydraulic (pore fluid pressure) processes, we believe it is better to keep the original definition of slip tendency, and use fracture susceptibility as an index of stability under effective pressure.