

Interactive comment on “A conceptual model of the hydrological influence of fissures on landslide activity” by D. M. Krzeminska et al.

Anonymous Referee #2

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The authors address an interesting and complex topic dealing with various influences of fissures on landslide processes. The fissures can be disconnected or connected. An approach for a dynamic fissure connectivity which has been applied for soil pipe networks before has been transferred to fissures. The fissures have been implemented in the landslide hydrology and stability model STARWARS. Parameter and sensitivity studies have been carried out for an idealized landslide. Of course, fissure connectivity and permeability are the most important parameters that control the landslide processes. Plausible results have been obtained. The dynamic connectivity seems to better represent observations in nature. One important conclusion is that the dynamic fissure behaviour can not be modelled with a hydraulic parametrisation of the fissure fraction with constant connectivity. The paper is clearly written. The dynamic

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fissure connectivity approach is innovative, although the current dynamic approach needs further development in future research. I recommend the paper for publication after minor revisions which are attached.

Please also note the supplement to this comment:

<http://www.hydrol-earth-syst-sci-discuss.net/8/C6003/2012/hessd-8-C6003-2012-supplement.zip>

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 8, 11039, 2011.

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