

Interactive comment on “A particle based simulation model for glacier dynamics” by J. A. Åström et al.

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This paper treats a so-called particle based modeling technique to simulate fracturing processes in glacier ice. The aim of this comment is not to review the paper, but just to indicate to the authors that there might be some existing works closely related to the topic addressed in the paper which seem not to be known to the authors. There is first a damage approach to simulate crevasse formation in glaciers by Pralong and Funk (2005). Another work by Faillettaz et al. (2010) addresses the problem of gravity-driven instabilities arising in glaciers and in other cases. Faillettaz et al. propose a model using an array of sliding blocks which interact via elastic-brittle springs. Although we are aware that the purpose of this model is different than what Astrom et al. address, because of the obvious similarity of both modeling approaches, in our opinion the paper

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of Faillettaz et al. (2010) should be referenced by Astrom et al.

Jerome Faillettaz and Martin Funk

Pralong A. and Funk M.: Dynamic Damage Model of Crevasse Opening and Application to Glacier Calving. *J. Geophys. Res.*, 110, B01309, doi:10.1029/2004JB003104, 2005.

Faillettaz J., Sornette D. and Funk M.: Gravity-driven instabilities: interplay between state-and-velocity dependent frictional sliding and stress corrosion damage cracking. *J. Geophys. Res.*, 115, B03409, doi: 10.1029/2009JB006512, 2010.

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