Interactive comment on “The sensitivity of flowline models of tidewater glaciers to parameter uncertainty” by E. M. Enderlin et al.

J. Oerlemans
j.oerlemans@uu.nl

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In Figure 2 of this paper initial stable profiles are shown. I suppose that with ‘stable’ the authors mean ‘steady state’?! Anyway, around x=90 km the simulated surface elevation has a significant reversed slope over a distance of ~ 5 km. I wonder if such a feature has ever been observed. It implies that here the driving stress is upstream over many kilometers! The authors should analyze this model result and show the force balance along the x-axis for this region in detail, and explain why the reversed surface slope is physically plausible. I suspect that we see an artefact of the way in which longitudinal stresses are dealt with in the model. Hopefully the authors can prove that I am wrong; otherwise the model is not very credible and the sensitivity study not valid.