

MISMIP+

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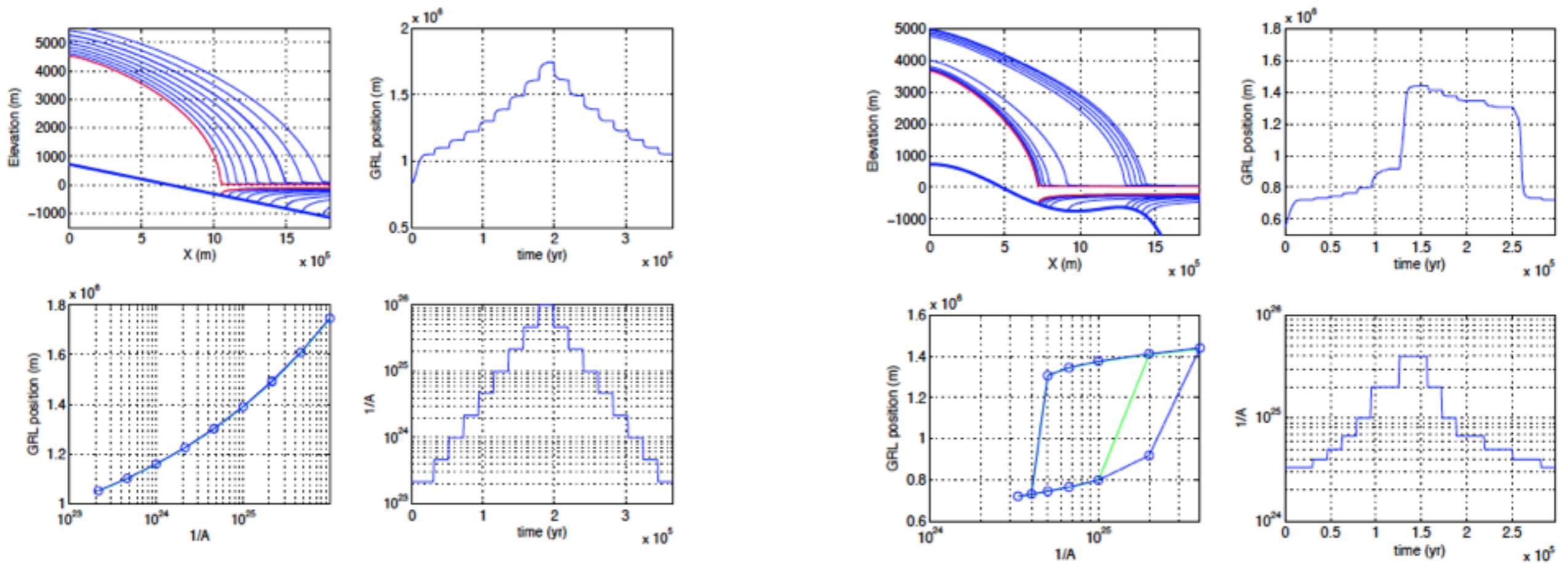
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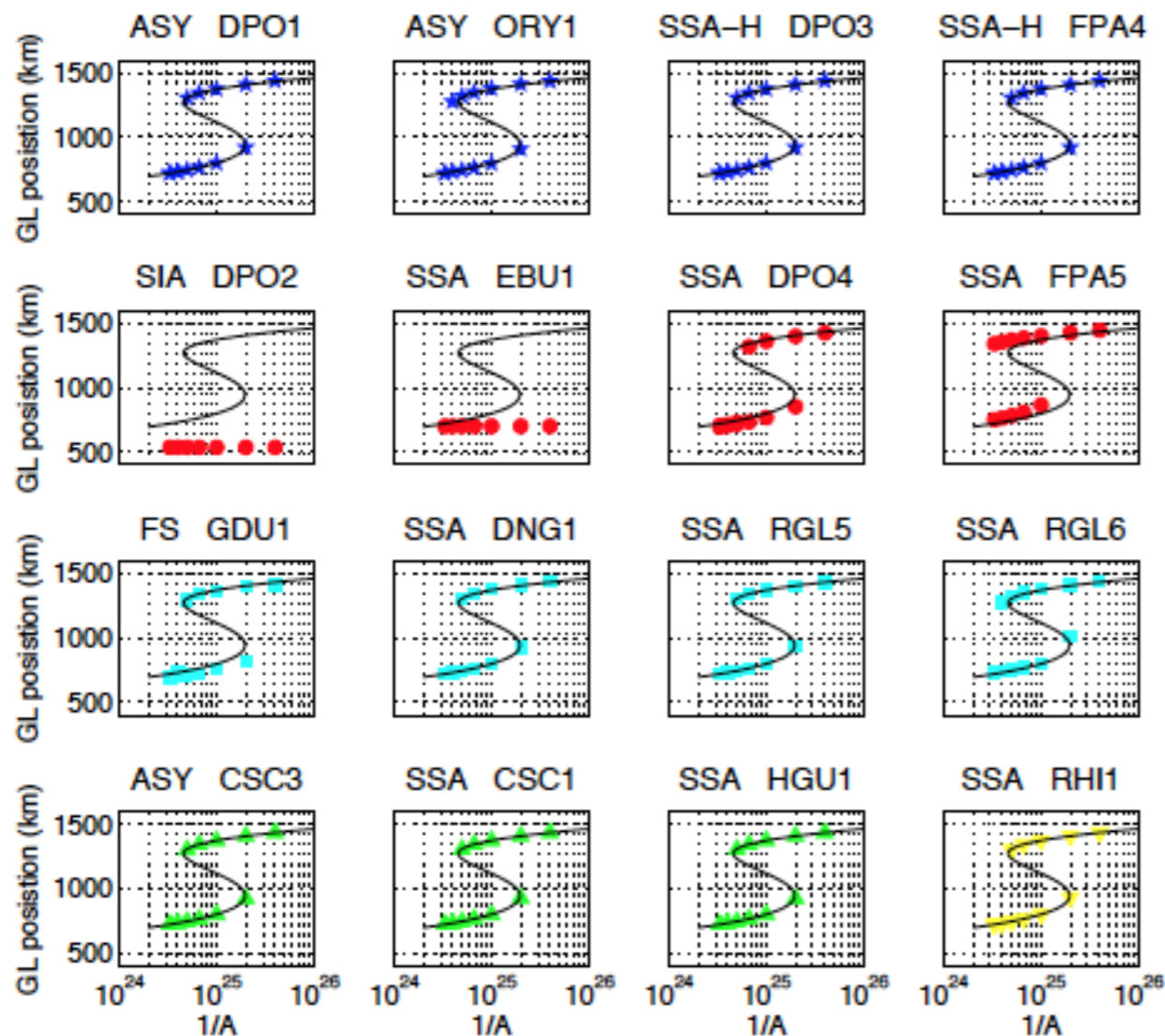
⁴ BAS, UK

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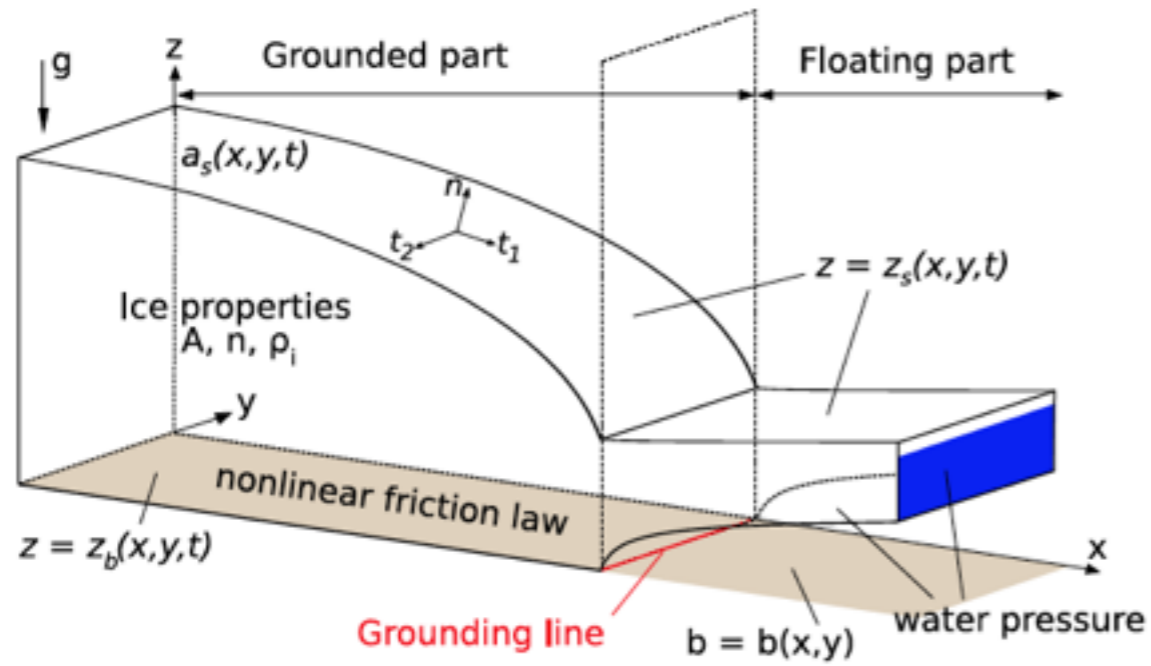
Comparison against BL theory (Schoof 2007)

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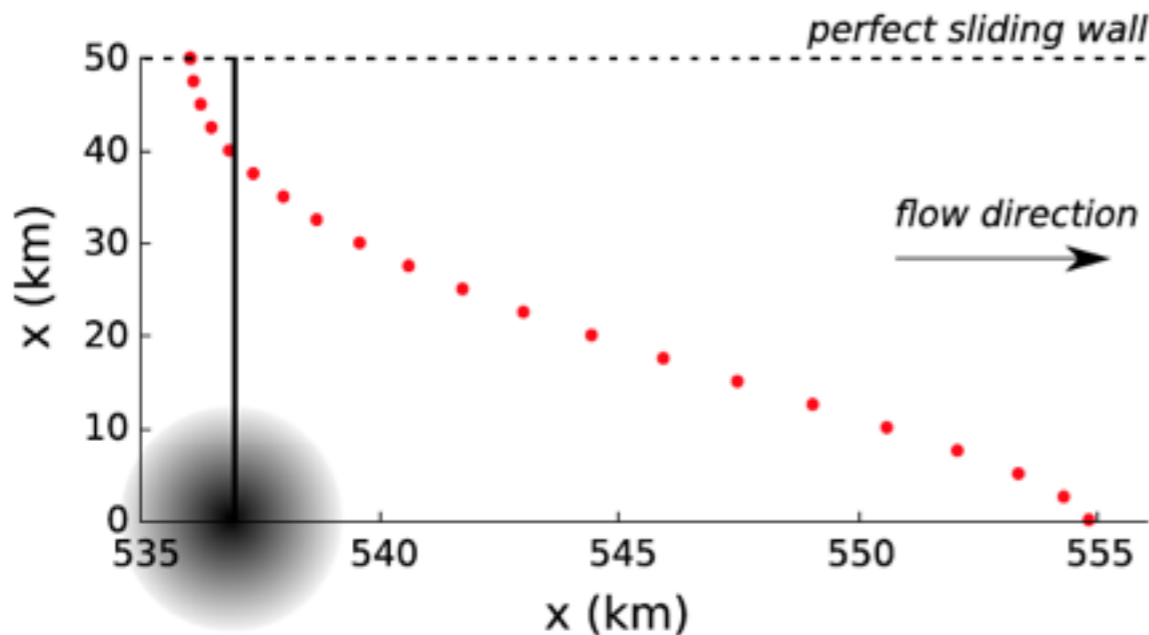


- extensional stresses must be resolved (SIA)
- spatial discretization is crucial (except BL flux imposed)
- Flow line (no buttressing)
- designed to compare steady-state

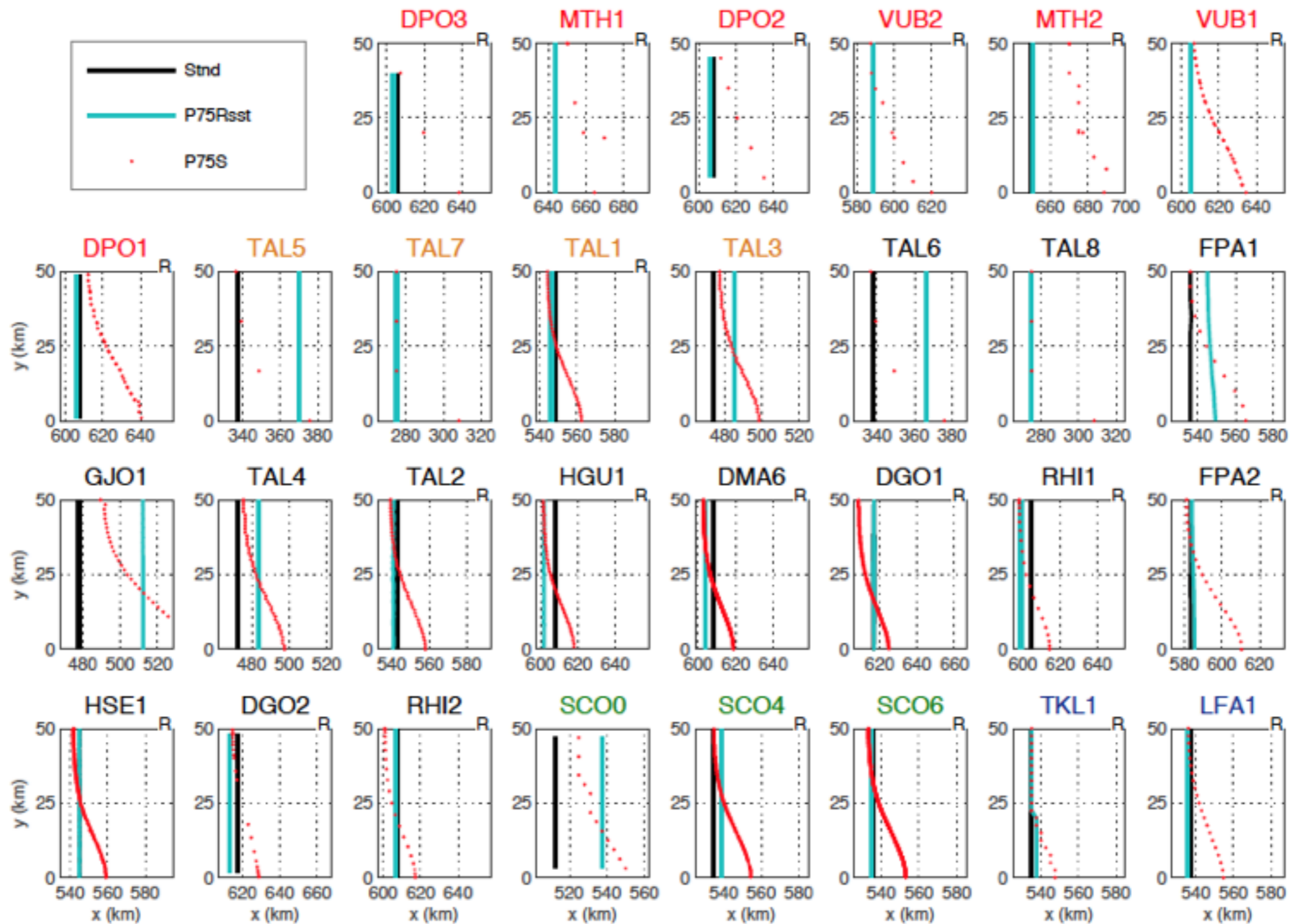
MISMIP3d



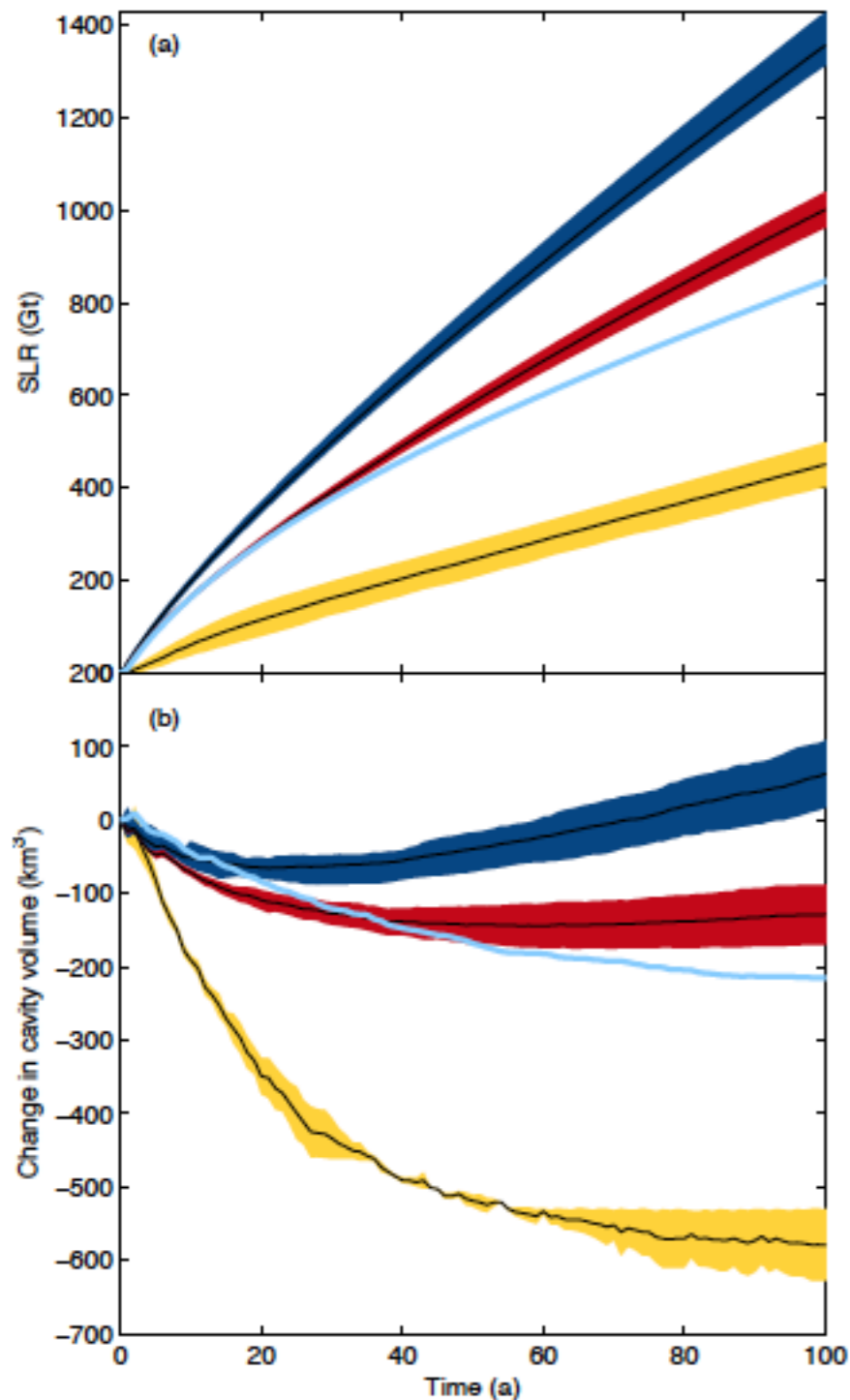
- Plan view problem
- linear downsloping bed
- sliding perturbation
- Test the reversibility



MISMIP3d



MISMIP3d



- Confirms MISMIP results
- Steady states and transients dependent on the level of physical model approximation
- Not a strong 3d set up
- Melt perturbation
- predictability of models not evaluated

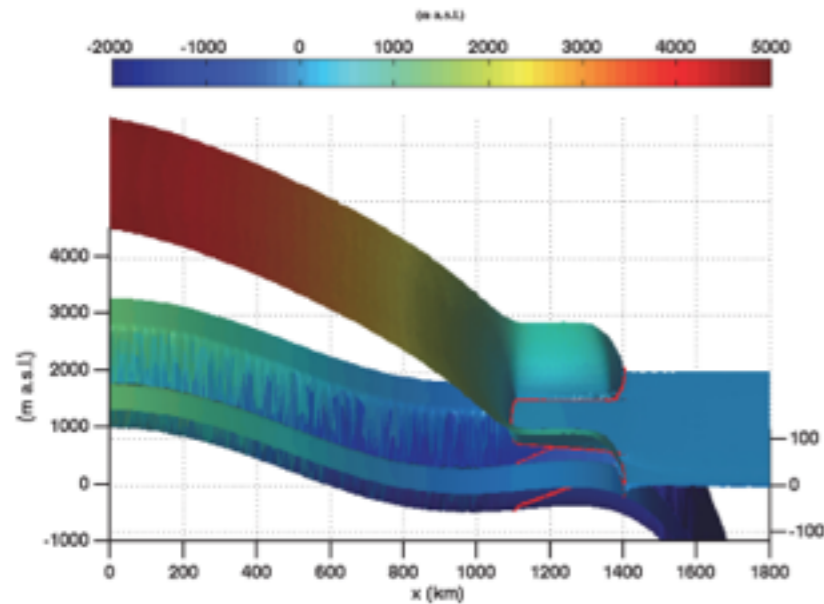
Needs for a follow-up?

2 meetings (EGU April 2014, IGS Chamonix June 2014)

General agreement:

yes we need to continue such efforts!

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- Synthetic bedrock (inspired by Gudmundsson 2012)
 - Should reproduce steady geometry on retrograde bedslope requisite before perturbation experiments
 - Should show reversibility as in MISMIP3d
- Perturbation: submarine melting (100 years)
- 2 sets of experiments (test model predictability vs improve understanding of grounding line dynamics)
 - produce a steady state and make perturbations
 - given geometry and velocity field, optimize basal friction. Make perturbations

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Timeframe

Stephen Cornford and Hilmar Gudmundsson will design and test a set of experiments (fall 2014)

Launching the intercomparison exercise to the community:
AGU fall meeting 2014