Interactive comment on “Benchmark experiments for higher-order and full Stokes ice sheet models (ISMIP-HOM)\(^1\)” by F. Pattyn et al.

F. Pattyn et al.

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We will take care of the phrasing, especially with respect to the use verification and validation; accuracy. We thank the referee for the detailed list of remarks from which the revised paper will certainly benefit.

Still a further reply on the remark regarding the no-slip/slip jump for experiment E where we switch from a Dirichlet to a Neumann condition. We agree with the referee that there definitely is room for more work, with respect to mathematical/numerical questions. We refer to previous experiments that are done with similar change in BCs for Arolla, as reported in Blatter et al. We will add that the experiment addresses a problem that is often encountered in numerical simulations focusing on for instance no

\(^1\)Ice Sheet Model Intercomparison Project for Higher-Order Models; http://homepages.ulb.ac.be/~fpattyn/ismip
sliding boundaries, which is apparently still a problem in present-day numerical ice sheet and glacier models and most numerical models still have problems to cope with that.

Interactive comment on The Cryosphere Discuss., 2, 111, 2008.