

Interactive comment on “A semi-implicit, second order accurate numerical model for multiphase underexpanded volcanic jets” by S. Carcano et al.

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This is an interesting and useful paper aimed at improvement of PDAC numerical model for simulation of multiphase volcanic flows. The paper reads well and is suitable for the journal. Indeed, I propose making two small additions: 1) add resolution test to Figs.3,4 to show variability/convergence of results with changing numerical resolution. 2) add short discussion/outlook section on future improvements of physical correctness, numerical accuracy and computational efficiency of 3D numerical models for strongly advective 3D multiphase volcanic flows (e.g., the potential for implementation of local mesh refinement, characteristics/markers-based non-diffusive advection schemes etc.) Taras Gerya, Zurich, 27.06.2013

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