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Discussions**

Interactive comment on "New developments in the analysis of volcanic pyroclastic density currents through numerical simulations of multiphase flows" *by* S. Lepore and C. Scarpati

Anonymous Referee #2

Received and published: 9 April 2012

This paper presents the results of 2D modeling of pyroclastic density currents with special reference to PDC deposits of highly varying extent in the Neapolitan volcanic area (Campi Flegrei and Vesuvius). The most important issues have been raised already by reviewer 1 and by the Editor: the main weakness of this work lies indeed in the statement that the RANS model applied here works well for PDC dynamics and observed deposit characteristics at Campi Flegrei and Vesuvius, whereas it apparently does not for those at other volcanoes - if this is so, it should be the subject of a more in-depth discussion.

I have a few further suggestions mainly regarding the English language - for example

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the first sentence in section 2 (lines 12-13 on page 177) should read "Granular flows are made up of a large number of particles that inelastically interact among each other" (rather than "among them"). In section 3 (Results) I would use "flow portions" rather than "flow sectors". A thorough language check by a native English speaker would be useful.

Considering that very detailed suggestions have been already given by reviewer 1 and by the Editor, I recommend that the paper be published after integrating those suggestions and some polishing of the English language.

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Interactive comment on Solid Earth Discuss., 4, 173, 2012.

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