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Atmospheric Chemistry and Physics Discussions

Interactive comment on "Aircraft observations and model simulations of concentration and particle size distribution in the Eyjafjallajökull volcanic ash cloud" *by* H. F. Dacre et al.

Anonymous Referee #2

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NAME simulations of the release of ash from the Eyjafjallajökull volcano eruption in 2010 are compared to measurements from a research airplane, radar and satellite of the cloud and its particle distribution. In the manuscript a thorough comparison is performed, that clearly illustrates the difficulties and limitations of the NAME model to simulate the ash cloud behavior, both with respect to the plume height and particle size distribution. Furthermore the manuscript is very well written. The results are of practical interest for applications and preparedness in connection with simulations of eruptions of volcanoes, which have a large effect on air traffic. I recommend accepting the manuscript for publication considering a few minor points below.

Minor points: 1. 22593, line 9. I don't see that it is "very good". Please reformulate. 2. 22593 line 26: When you refer to Fig 7 this early in the manuscript, the legend is not clear. 3. 22594 line 20. Provide a reference to the observations on particle size from EARLINET, AERONET, Cabauw. . ... 4. 22604 line 16, Write out "time in square root"

Interactive comment on Atmos. Chem. Phys. Discuss., 12, 22587, 2012.