

## ***Interactive comment on “Chemical analysis of refractory stratospheric aerosol particles collected within the arctic vortex and inside polar stratospheric clouds” by Martin Ebert et al.***

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This is a very interesting paper that presents nice results on the detection of solid particles in the stratosphere. We have two short comments: 1) Page 15 line 19 (part 4.1;7 Soot): the author proposed possible sources for soot particles in the stratosphere. The (transient) presence of soot in the middle stratosphere and their possible origins, including meteoritic material, were also obtained from balloon-borne measurements using optical instruments and were discussed in :

Renard, J.-B., Brogniez, C., Berthet, G., Bourgeois, Q., Gaubicher, B., Chartier, M., Balois, J.-Y., Verwaerde, C., Auriol, F., Francois, P., Daugeron, D., and Engrand, C.: Vertical distribution of the different types of aerosols in the stratosphere, Detection of

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solid particles and analysis of their spatial variability, J. Geophys. Res., 113, D21303, doi:10.1029/2008JD010150, 2008.

This analysis was conducted before the Bigg 2011 publication.

2) It is possible, in particular from figure 9, to provide an averaged concentrations of solid particles in the stratosphere at the altitude of measurements, for the different size classes?

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