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Atmospheric Chemistry and Physics Discussions

Interactive comment on "Stratospheric SO_2 and sulphate aerosol, model simulations and satellite observations" *by* C. Brühl et al.

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I was interested to read the paper and its implication of a meteoric dust sink to explain sulphur levels in the upper stratosphere. I'd like to bring to the authors attention, the paper by myself and colleagues (ACP, 12, 4387-, 2012) in which we modelled sulphuric acid loss to meteoric smoke (nano) particles in an effort to explain the low acid levels above 40 km, where a small number of measurements have been reported. We found that an uptake (sticking) coefficient of 0.01 or greater (section 3.4) was required for this heterogeneous uptake mechanism to account for the measured data i.e. the value used by the authors for this parameter in their treatment (0.01) is consistent with what we reported. As encouraging as such inter-model corroboration is, laboratory-measured

verification of this value using realistic meteoritic material and particle size is now vital.

Interactive comment on Atmos. Chem. Phys. Discuss., 13, 11395, 2013.