

## ***Interactive comment on “Long range transport and fate of a stratospheric volcanic cloud from Soufriere Hills volcano, Montserrat” by A. J. Prata et al.***

**A. J. Prata et al.**

Received and published: 29 May 2007

### **Response to Referee #1**

1. We agree that there is a difference between episodic low-level volcanic SO<sub>2</sub> injections, episodic stratospheric SO<sub>2</sub> injections, and the continuous geo-engineering SO<sub>2</sub> injections of the kind suggested in Crutzen's paper. We will follow the Referee's advice and modify the Introduction to clarify this.
2. We apologize for the quality of the Figures when printed. We did submit high-resolution quality Figures and the quality can be verified by “zooming up” on screen using (for example) Adobe Acrobat. The printed version is not satisfactory,

S2112

Full Screen / Esc

Printer-friendly Version

Interactive Discussion

Discussion Paper

EGU

however. We will divide Figure 1 into 4 or 5 separate Figures and request that the Journal reproduce them at high quality.

3. This is a good point. The typical e-folding time for stratospheric SO<sub>2</sub> conversion to sulphate aerosol is variable but seems to be in the range of 10–20 days. We will follow the Referee's advice and include a simple chemical loss rate in the FLEXPART runs. We are re-formatting the Movie files and will include a better discussion of the model results (compared to the observations) as well as some discussion of the chemical effects.

[Full Screen / Esc](#)[Printer-friendly Version](#)[Interactive Discussion](#)[Discussion Paper](#)