

Supplement

Parameters	wo_ODMS	CTRL	2X_ODMS
SO₂ (Tg)	0.0645	0.1407	0.2545
H₂SO₄ (Tg)	$2.0 \cdot 10^{-4}$	$4.38 \cdot 10^{-4}$	$5.61 \cdot 10^{-4}$
Num_act (1/m³)	$1.24 \cdot 10^9$	$2.69 \cdot 10^9$	$3.47 \cdot 10^9$
AOD	0.136	0.167	0.201

Table S1. Absolute values (DJF mean) (a) SO₂ column burden (b) H₂SO₄ column burden (c) vertically integrated number of activated particles (Num_act) and (d) aerosol optical depth (AOD) at 0.55 μm over 30S-75S in wo_ODMS, CTRL and 2X_ODMS simulations.