Research paper

Size-segregated sulfate on top of Mt. Fuji transported from Sakurajima volcano eruption

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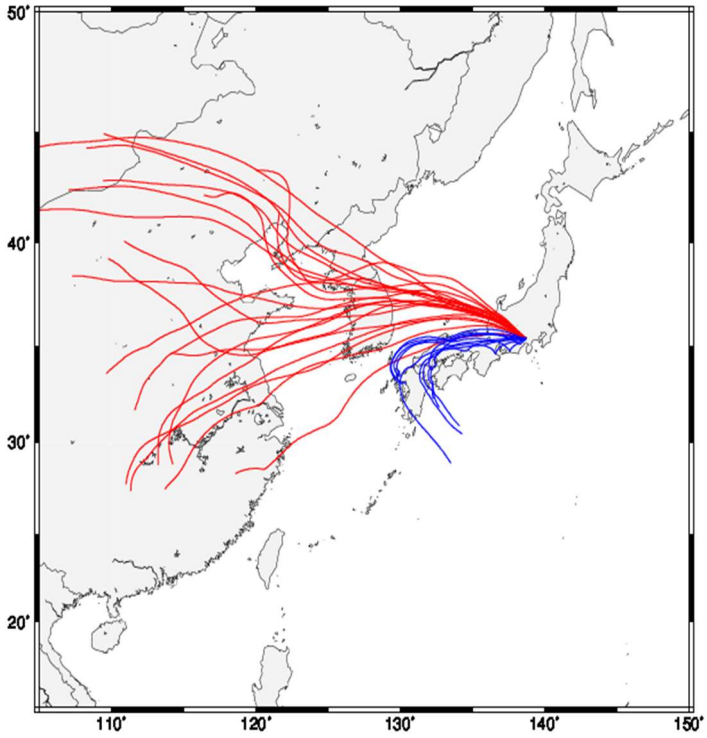


Fig. S1 Back trajectories during the observation on the top of Mt. Fuji（red: the first period, blue: the second period）

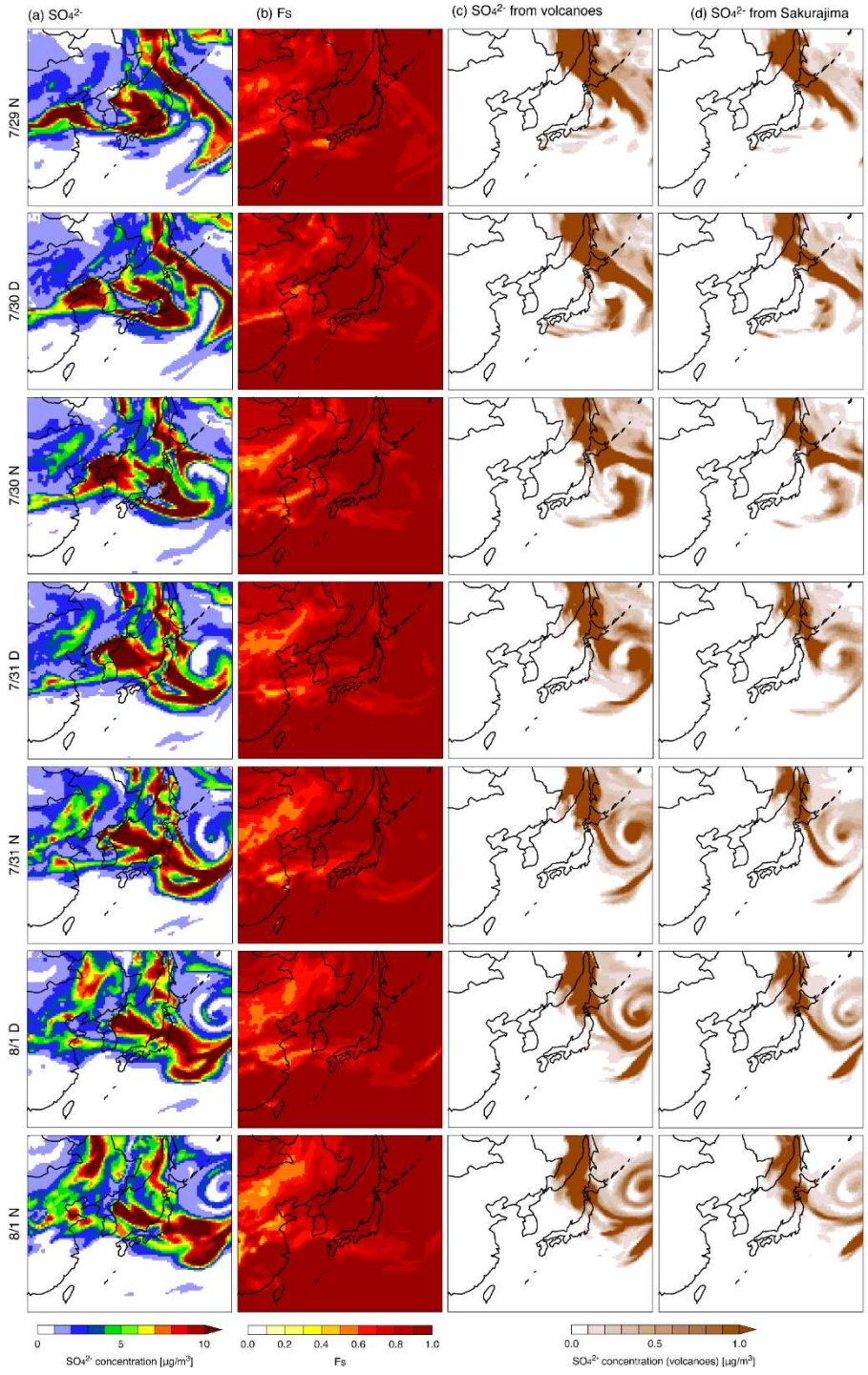
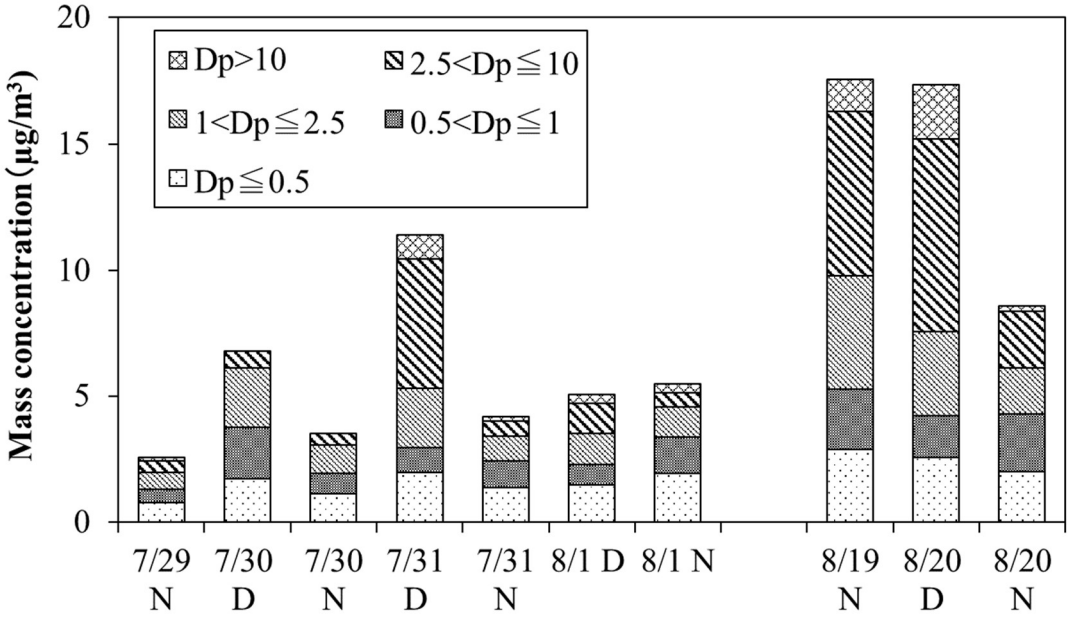
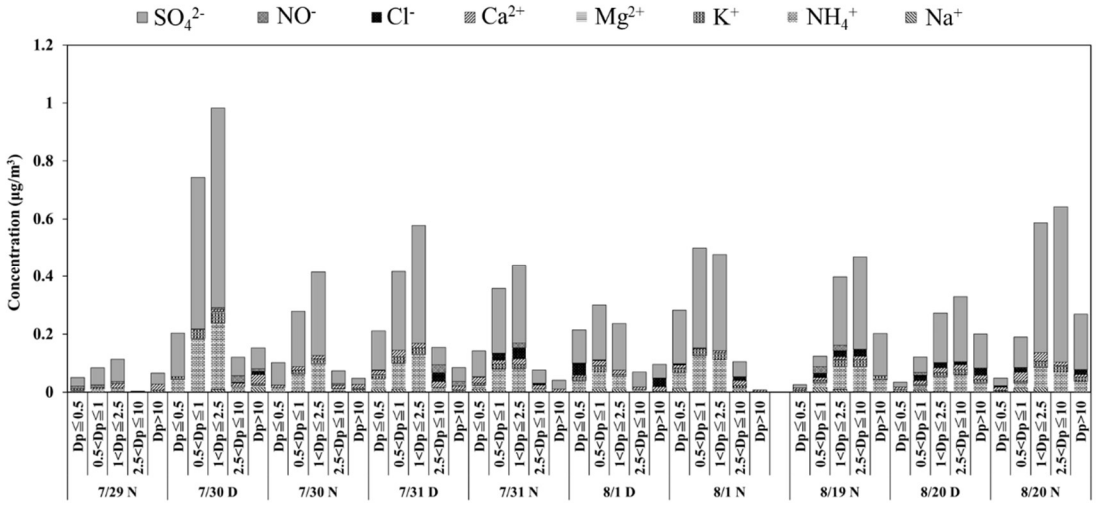


Fig. S2 Spatial distribution of the simulated sulfate concentration without volcano and including volcano emission, *Fs* and of the difference in volcanic emissions during the first periods.


Mass concentration (μg/m³)
20
15
10
5
0
Dp>10
2.5<Dp≦10
1<Dp≦2.5
0.5<Dp≦1
Dp≦0.5
7/29 N
7/30 D
7/30 N
7/31 D
7/31 N
8/1 D
8/1 N
8/19 N
8/20 D
8/20 N


SO4 2-
NO-
Cl-
Ca2+
Mg2+
K+
NH4+
Na+
Concentration (μg/m³)
1.2
1
0.8
0.6
0.4
0.2
0
Dp≦0.5
0.5<Dp≦1
1<Dp≦2.5
2.5<Dp≦10
Dp>10
7/29 N
7/30 D
7/30 N
7/31 D
7/31 N
8/1 D
8/1 N
8/19 N
8/20 D
8/20 N

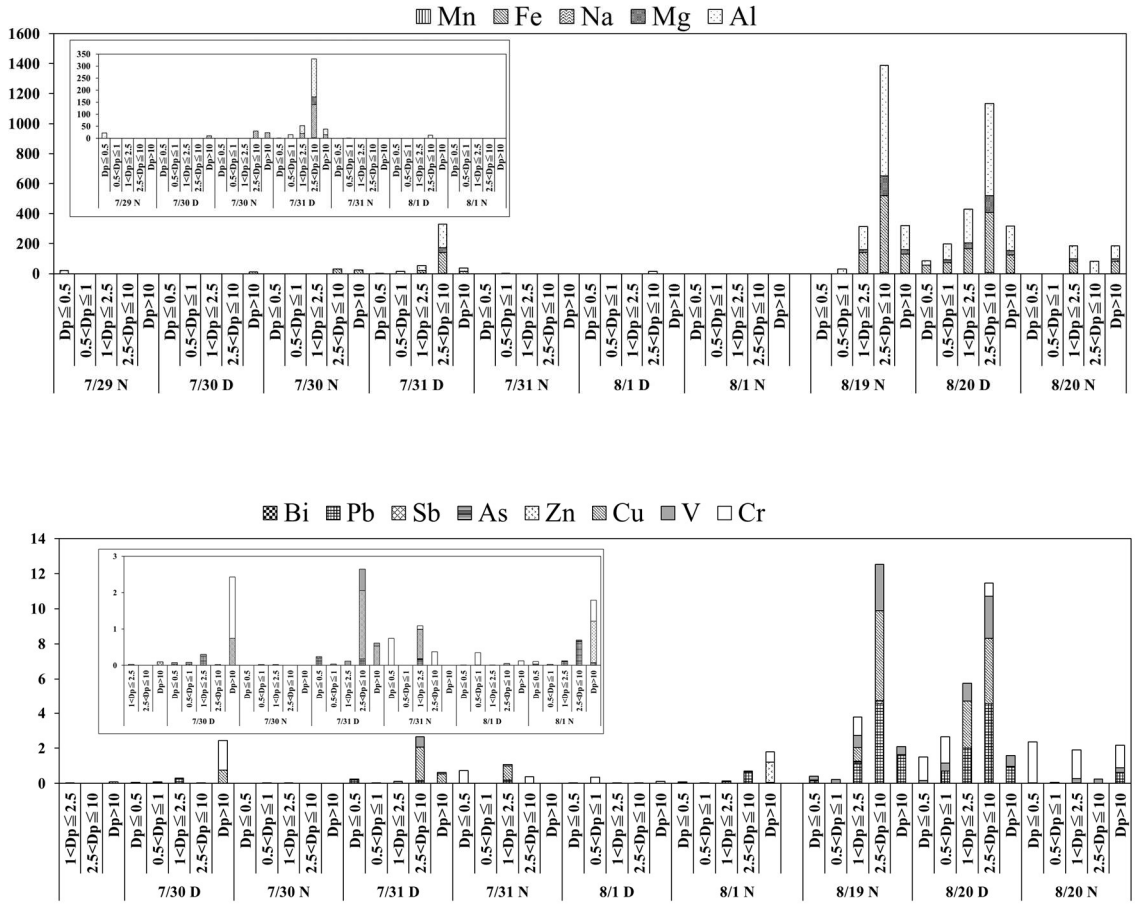


Fig. S3 Aerosol mass, ion, element concentrations during the whole period.
N: nighttime data from 18:00 to 6:00 next day; D: daytime data from 6:00 to 18:00.

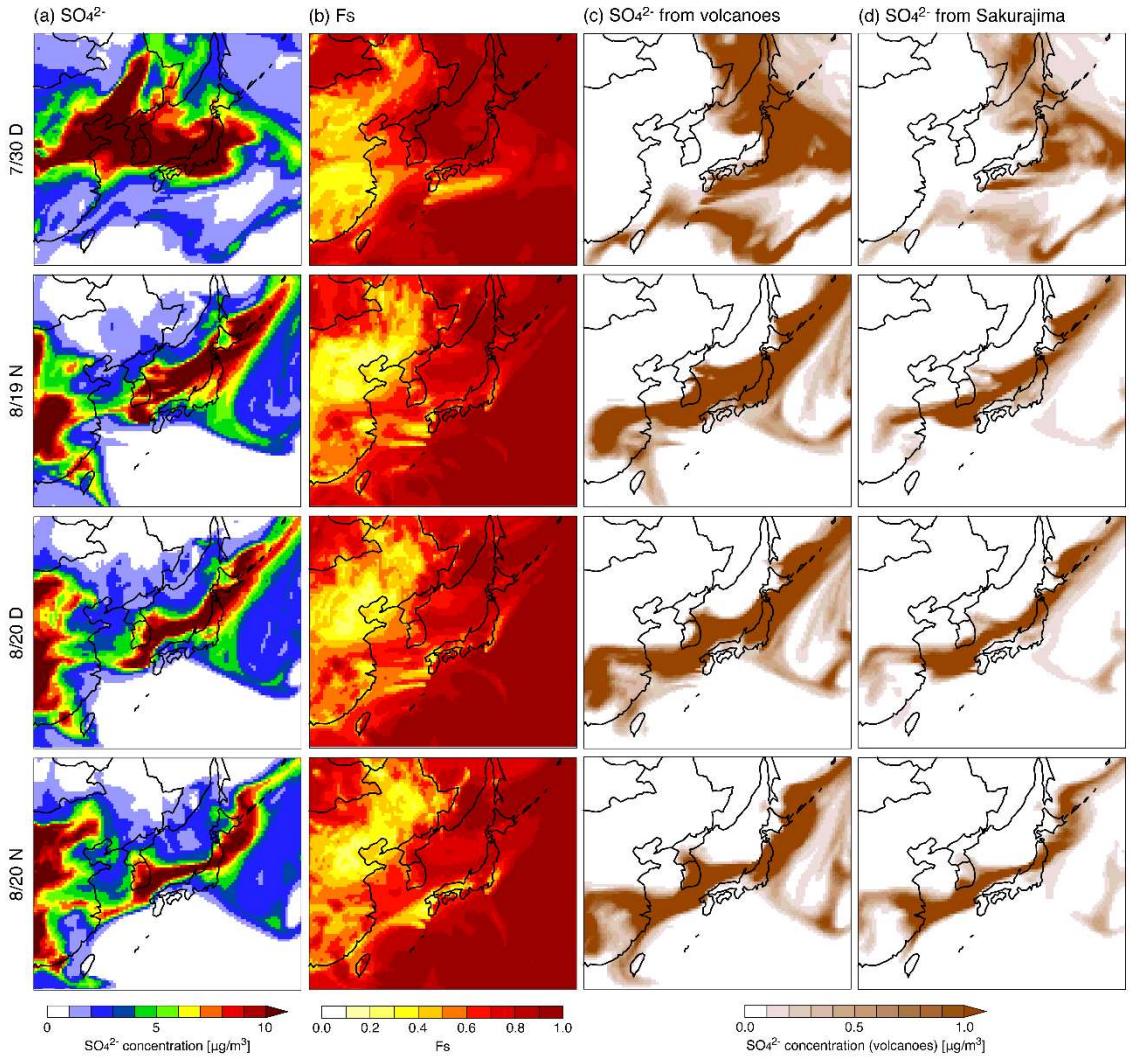


Fig. S4 Spatial distribution of the simulated sulfate concentration without volcano and including volcano emission, *Fs* and of the difference in volcanic emissions during the second periods.

Table S1 Summary of the statistical analysis for SO_2, SO_4^{2-} and *Fs* during the measurement campaign in July and August 2013.

Date	SO_2 (ppbv)	nss-SO_4^{2-} (μ/m^3)	*Fs*
7/29 N	0.01	0.20	0.94
7/30 D	0.00	1.50	1.00
7/30 N	0.01	0.62	0.98
7/31 D	0.01	0.92	0.98
7/31 N	0.00	0.65	1.00
8/1 D	0.01	0.56	0.96
8/1 N	0.01	0.91	0.99
8/19 N	0.01	0.74	0.98
8/20 D	0.01	0.58	0.98
8/20 N	1.13	1.30	0.58