Atmospheric
Chemistry
and Physics

Supplement of

Vertically resolved formation mechanisms of fine particulate nitrate in Asian megacities: integrated lidar – aircraft observations and process analysis

Yutong Tian et al.
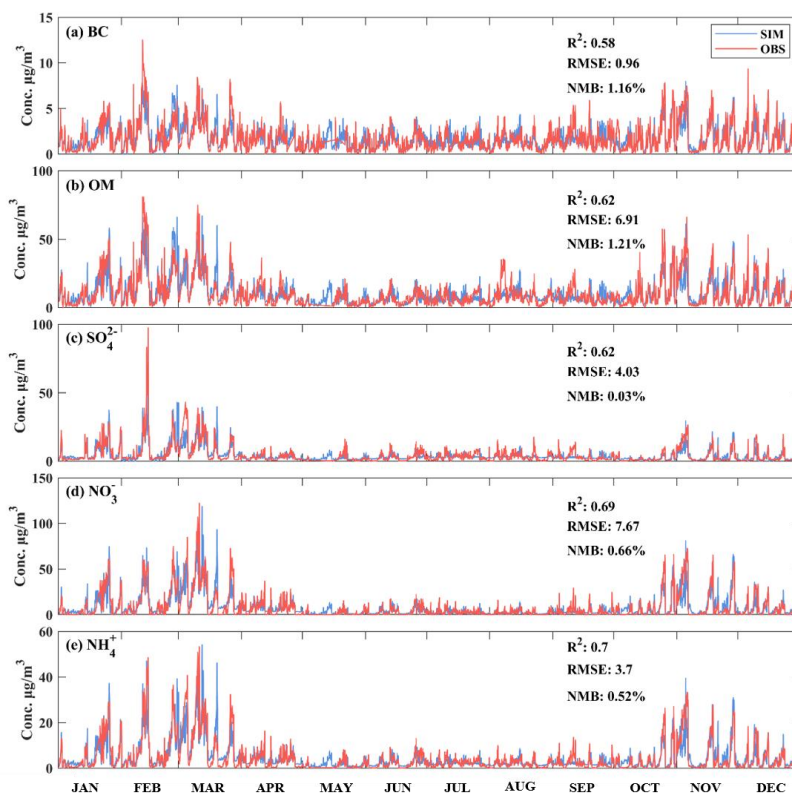
Correspondence to: Ting Yang (tingyang@mail.iap.ac.cn)

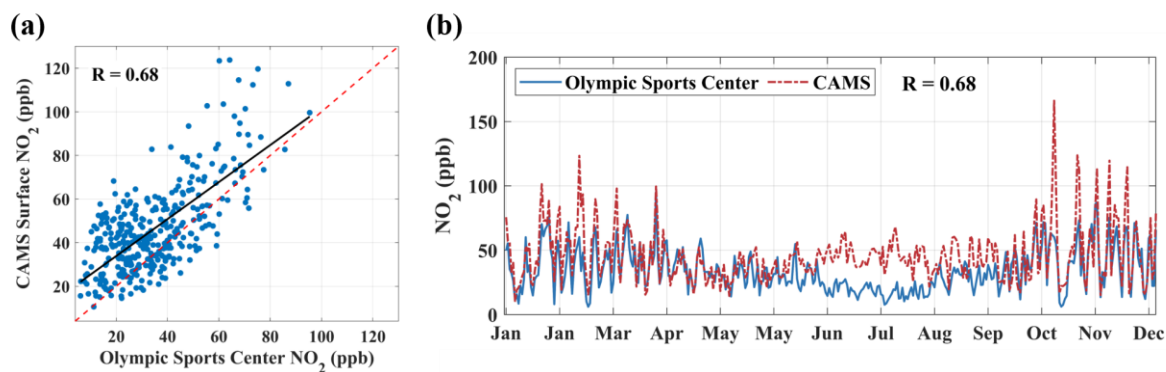Figure S1. Validation of ground layer retrieval results against ACSM observations.

Figure S2. Scatter plot (a) and time series plot (b) comparing NO_2 volume concentrations between ground-based observations at the Beijing Olympic Sports Centre and the ground-level output (1000 hPa) from CAMS.
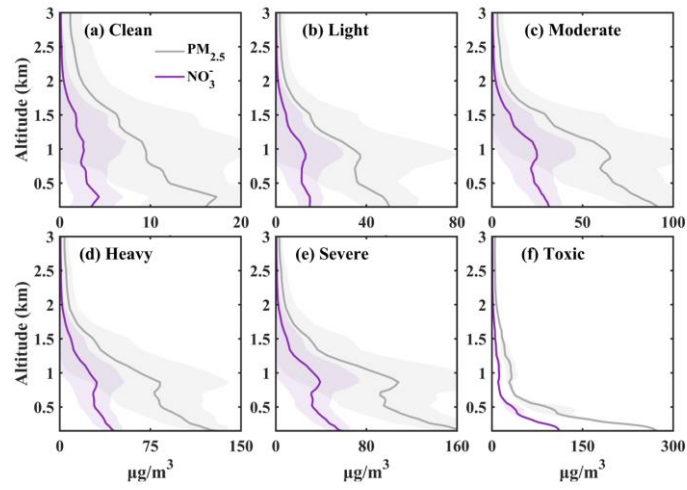
Figure S3. Vertical profiles of PM$_{2.5}$ and nitrate mass concentrations under different pollution conditions.
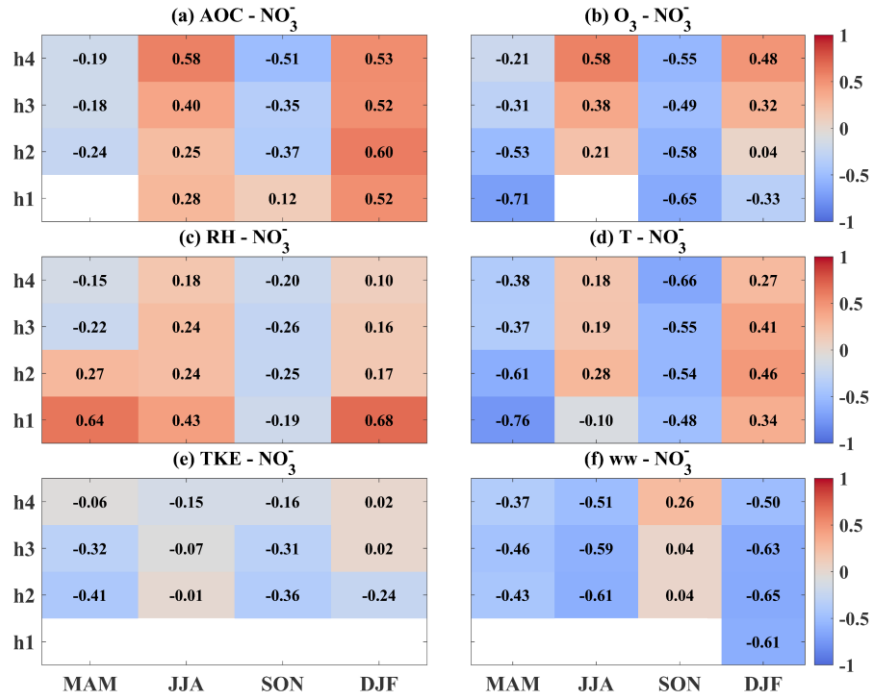

Figure S4. Heatmap of correlations between nitrate and each driven factor across four seasons and four height layers, with blank cells for non-significant correlations.
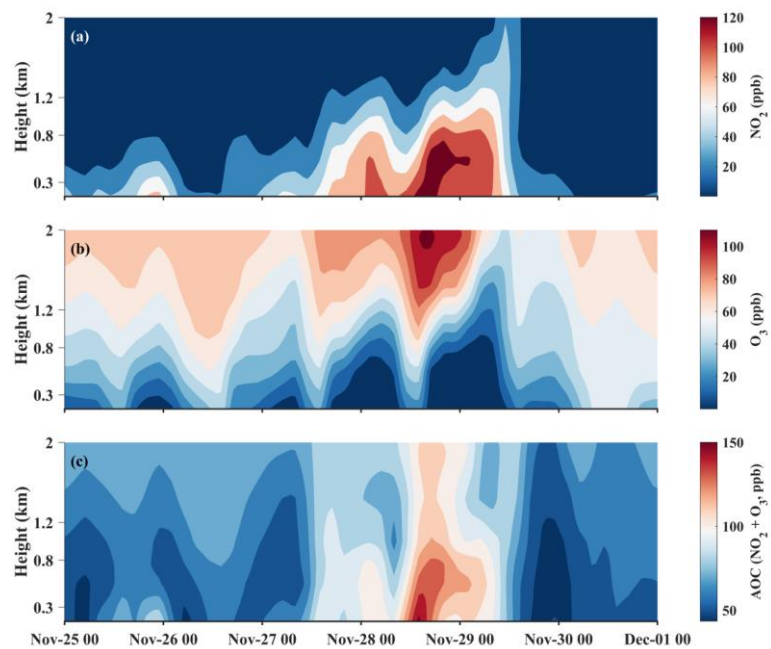
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Figure S5. Vertical profiles of NO_2, O_3, and AOC from November 25 to 30, 2021.