



Supplement of

Ground-based vertical profile observations of atmospheric composition on the Tibetan Plateau (2017–2019)

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Supplement

Table S1: Correlation between NO₂ (HCHO) from MAX-DOAS and OMI in different seasons.

Slope (R)	Spring	Summer	Autumn	Winter
NO ₂ *	Less data	Less data	0.99 (0.76)	1.49 (0.62)
HCHO*	0.56 (0.35)	Less data	1.42 (0.56)	1.06 (0.51)

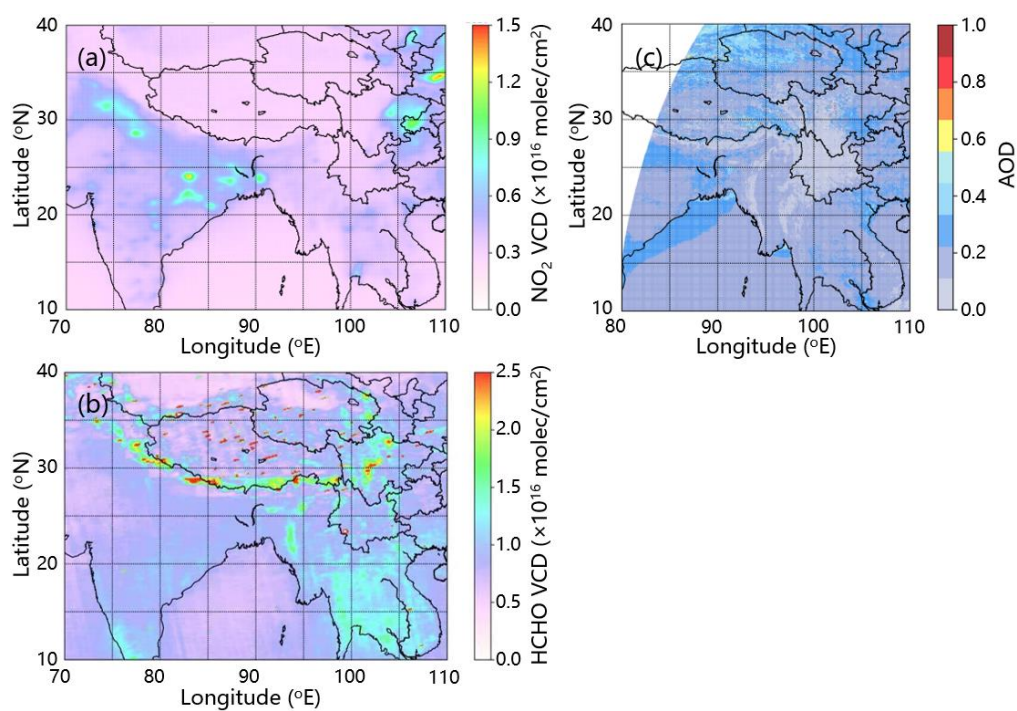


Figure S1. Averaged spatial distributions of VCDs of (a) NO₂ and (b) HCHO measured by OMI, and (c) AOD measured by Himawari-8 from December 2017 to March 2019.

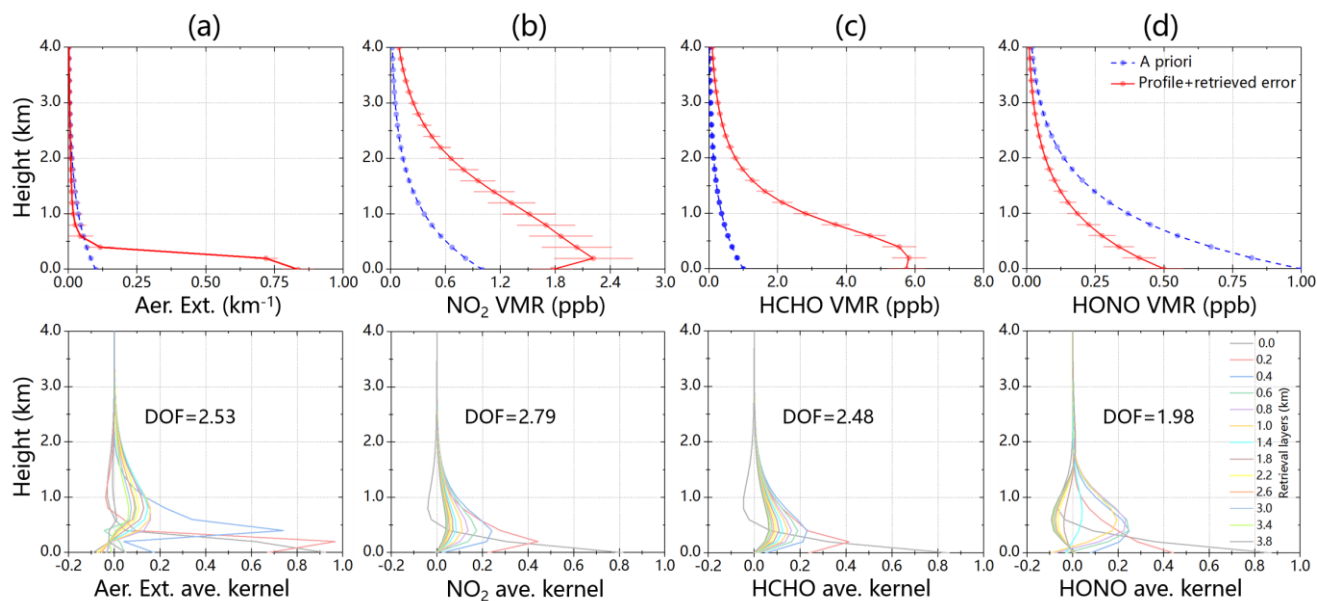


Figure S2. Retrievals at 11:11:30 (LST) on 10 March at the CAS (QOMS) station. (a) aerosol extinction, (b) NO₂, (c) HCHO and (d) HONO. The top row shows the retrieved profiles, plotted with their associated a priori profile and retrieved errors. The bottom row presents the averaging kernels and degrees of freedom for signal associated with the profile retrieval.

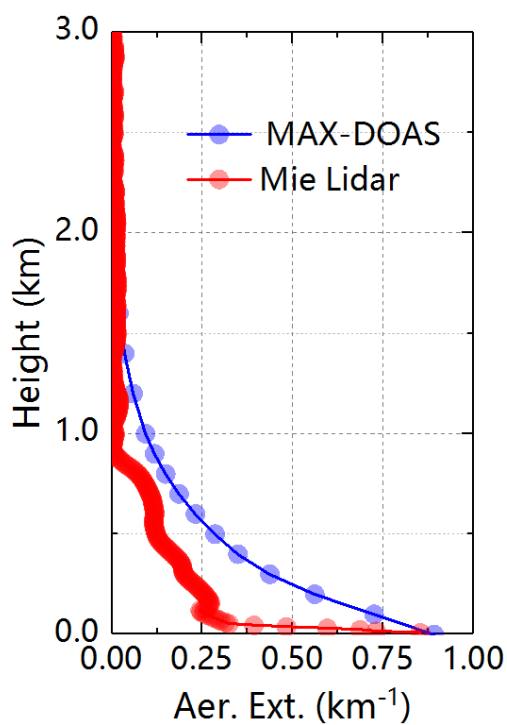


Figure S3. Aerosol extinction vertical profiles measured by MAX-DOAS and Mie scattering lidar at 08:30 of 02 August, 2018.

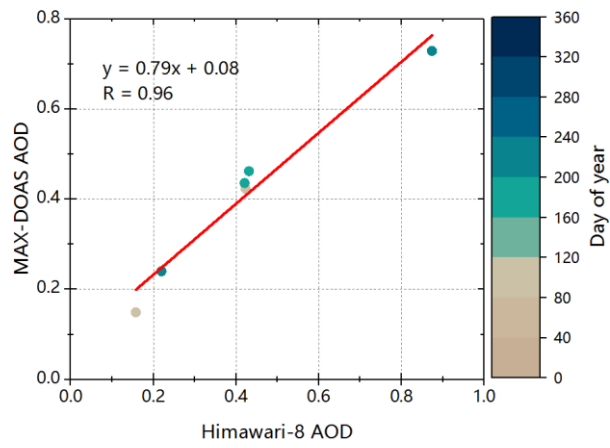


Figure S4. Scatter plots of MAX-DOAS AOD against with Himawari-8 AOD.