Supplements for:

Effects of transport on a biomass burning plume from Indochina during EMeRGe-Asia identified by WRF-Chem

Chuan-Yao Lin[1]*, Wan-Chin Chen[1], Yi-Yun Chien[1], Charles C. K. Chou[1], Chian-Yi Liu[1], Helmut Ziereis[2], Hans Schlager[2], Eric Förster[3], Florian Obersteiner[3], Ovid O. Krüger[4], Bruna A. Holanda[4], Mira L. Pöhlker[4,a], Katharina Kaiser[5,7], Johannes Schneider[5], Birger Bohn[8] , Maria Dolores Andrés Hernández[6], John P. Burrows[6]

1. Research Center for Environmental Changes, Academia Sinica, Taipei, Taiwan
2. Deutsches Zentrum für Luft- und Raumfahrt (DLR), Institut für Physik der Atmosphäre, Oberpfaffenhofen, Germany
3. Karlsruhe Institute of Technology, Institute of Meteorology and Climate Research, Karlsruhe, Germany
4. Multiphase Chemistry Department, Max Planck Institute for Chemistry, Mainz, Germany
5. Particle Chemistry Department, Max Planck Institute for Chemistry, Mainz, Germany
6. Institute of Environmental Physics, University Bremen, Bremen, Germany
7. Institute for Atmospheric Physics, Johannes Gutenberg University, Mainz, Germany
8. Institute of Energy and Climate Research IEK-8, Forschungszentrum Jülich, Jülich, Germany

now at: Faculty of Physics and Earth Sciences,Leipzig Institute for Meteorology, University of Leipzig Universit Germany/ Experimental Aerosol and Cloud Microphysics Department, Leibniz Institute for Tropospheric Research, Leipzig, Germany

This file contains four supplementary figures.

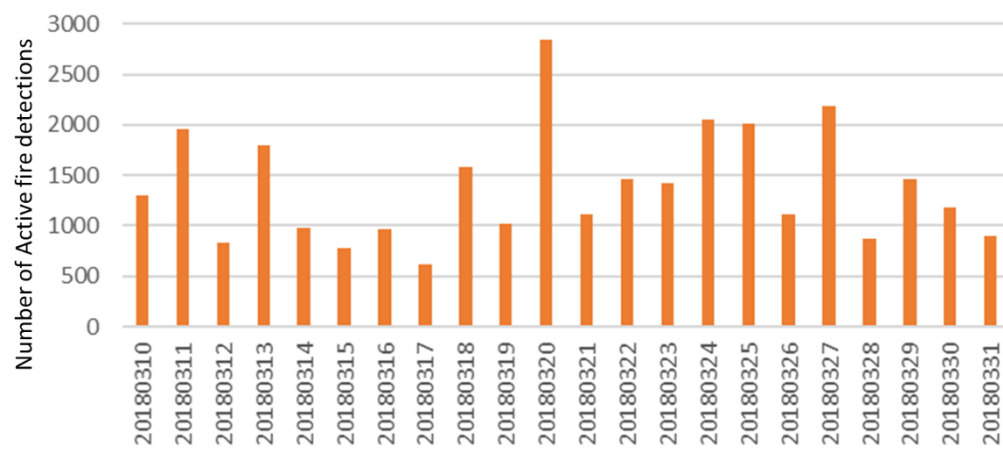



Figure S1: The variation of the number of active fire detections from Terra MODIS satellite during 10 and 31 March 2018 over Indochina (10 °N to 23°N, 90°E to 110°E).

(a)

(b)

(c)

(d)

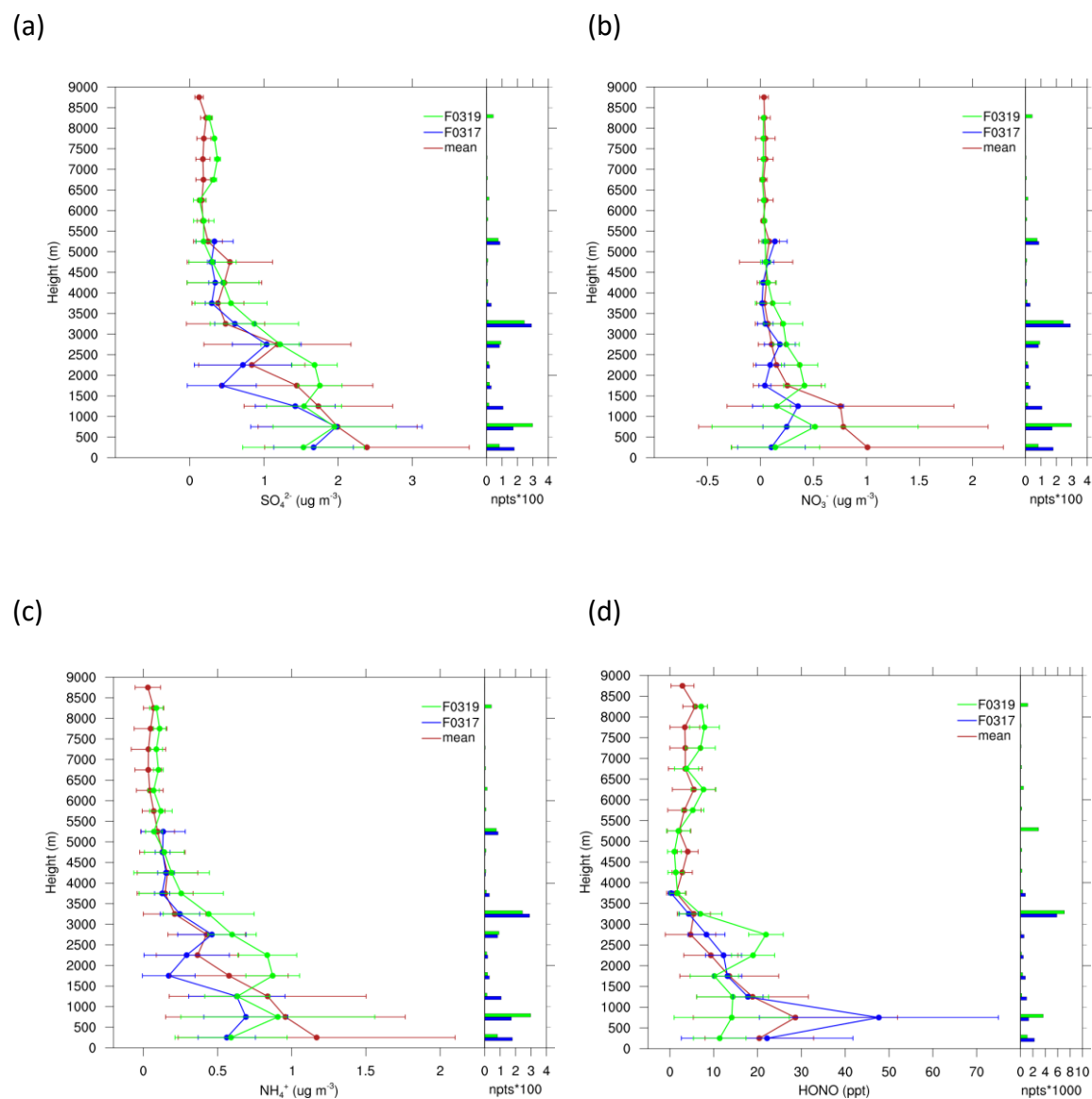



Figure S2 Observed vertical distribution of the concentrations for the mean profiles (red) (including 17, 19, 22, 24, 26, 30 March, and 04 April 2018) and cases on 17 (blue) and 19 (green) March 2018.   (a) SO_4^{2-} (b) NO_3^+ (c) NH_4^+ (d) HONO. The number of data points is shown in the right panel.

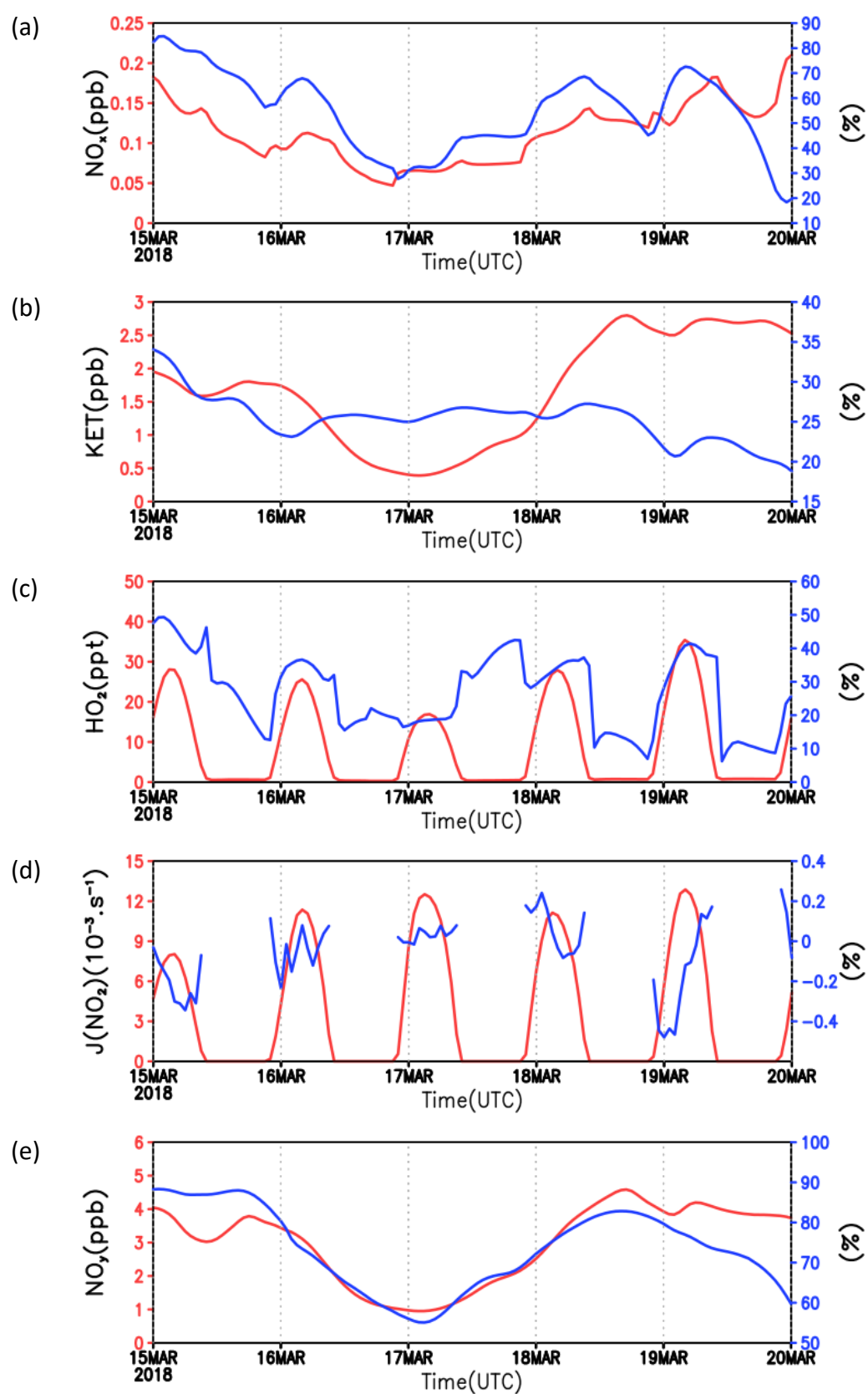
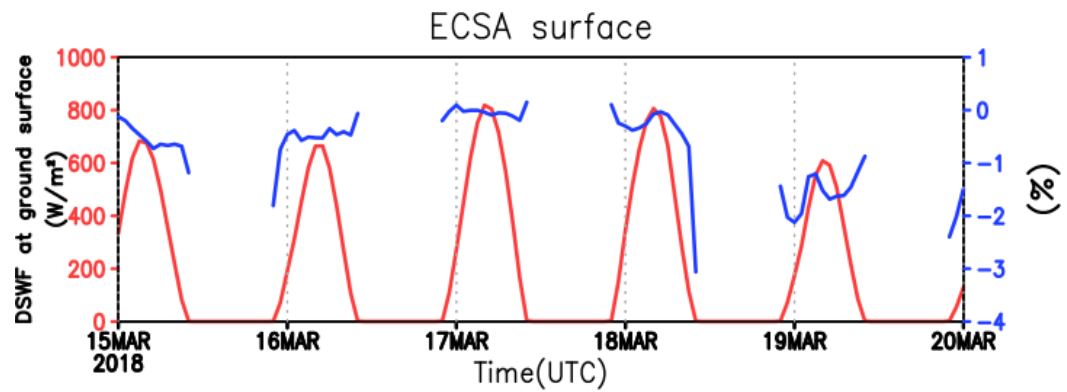



Figure S3 Simulated mean concentration (red) and contributed by BB (%, blue) between 2 km and 4 km over the region ECSA in Fig.1a during 15-19 March 2018. (a) NO_x (b) KET (ketones) (c) HO_2 (d) $J(NO_2)$ (e) NO_y.

(a)

(b)

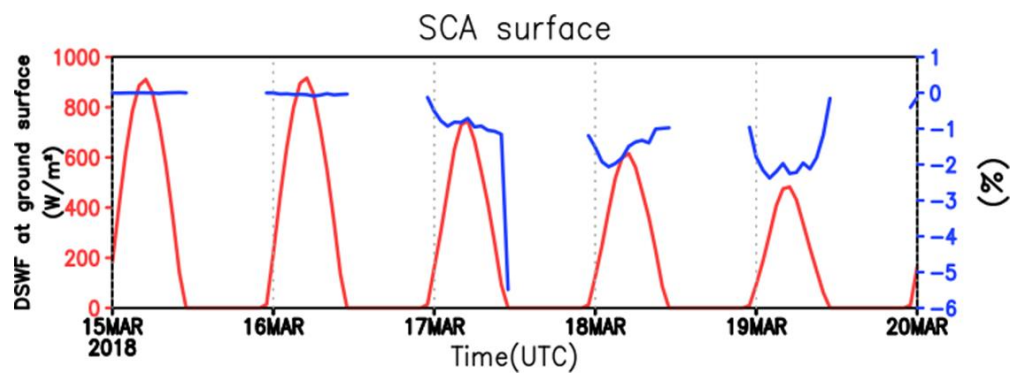



Figure S4 Simulated mean concentration (red) and contributed by BB (%, blue) for the downward short wave flux (DSWF) at ground surface over the region in Fig.1a during 15-19 March 2018. (a) ECSA (b) SCA