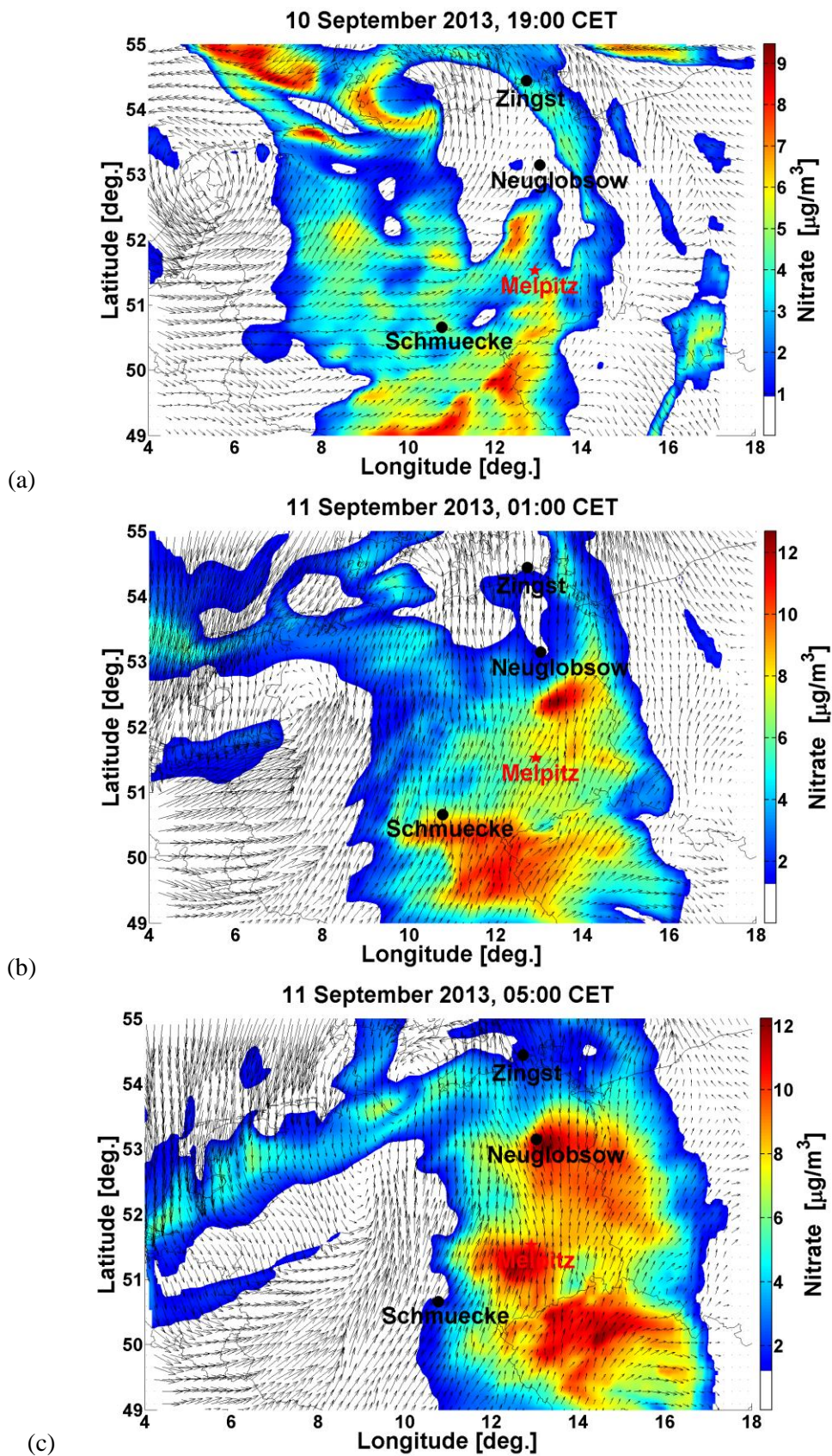*Supplement of*

# A Parameterization of Heterogeneous Hydrolysis of N_2O_5 for 3-D Atmospheric Modelling: Improvement of Particulate Nitrate Prediction

Y. Chen et al.

*Correspondence to*: Y. Chen (chen@tropos.de) and R. Wolke (wolke@tropos.de)

10 September 2013, 19:00 CET

11 September 2013, 01:00 CET

11 September 2013, 05:00 CET

(a)

(b)

(c)

Figure S1. Spatial distribution of particulate nitrate mass concentration and wind pattern, modelled results of NewN2O5 case. (a) 2013-09-10, 19:00 CET; (b) 2013-09-11, 01:00 CET; (c) 2013-09-11, 05:00 CET.
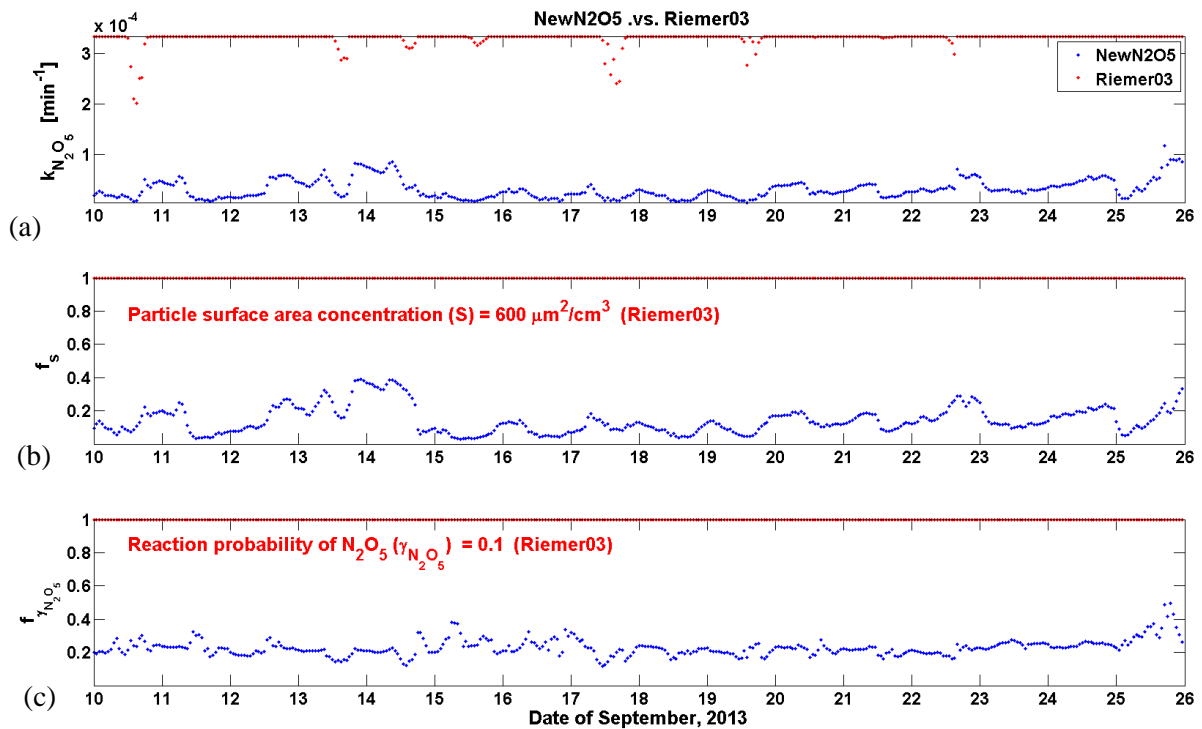
Figure S2. Comparison of modelled results at Melpitz between Riemer03 (red) and NewN2O5 (blue) cases. (a) Heterogeneous reaction constant of N_2O_5; (b) factor of particle surface area concentration; (c) factor of reaction probability of N_2O_5.
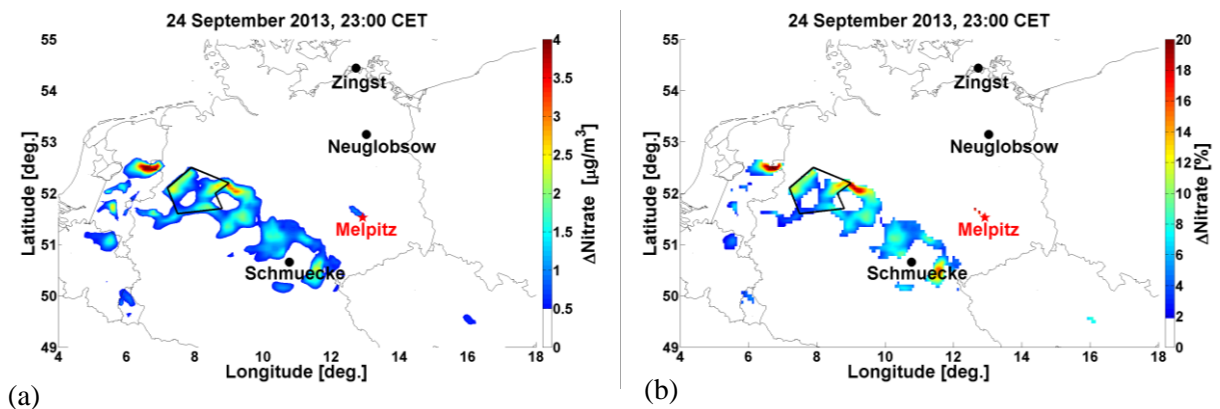
Figure S3. Horizontal distribution of modelled results at 24 September 23:00 CET, based on new N_2O_5 scheme. (a) Difference of particulate nitrate mass concentration between with and without organic coating effect; (b) difference of particulate nitrate mass concentration in percentage between with and without organic coating effect, where with differences less than 2% or 0.5 μg/m³ are indicated by white colour.