Supplement of Atmos. Chem. Phys., 19, 7583–7594, 2019
https://doi.org/10.5194/acp-19-7583-2019-supplement

Atmospheric Chemistry and Physics
Open Access
EGU

Supplement of

New particle formation events observed at King Sejong Station, Antarctic Peninsula – Part 1: Physical characteristics and contribution to cloud condensation nuclei

Jaeseok Kim et al.

Correspondence to: Young Jun Yoon (yjyoon@kopri.re.kr)

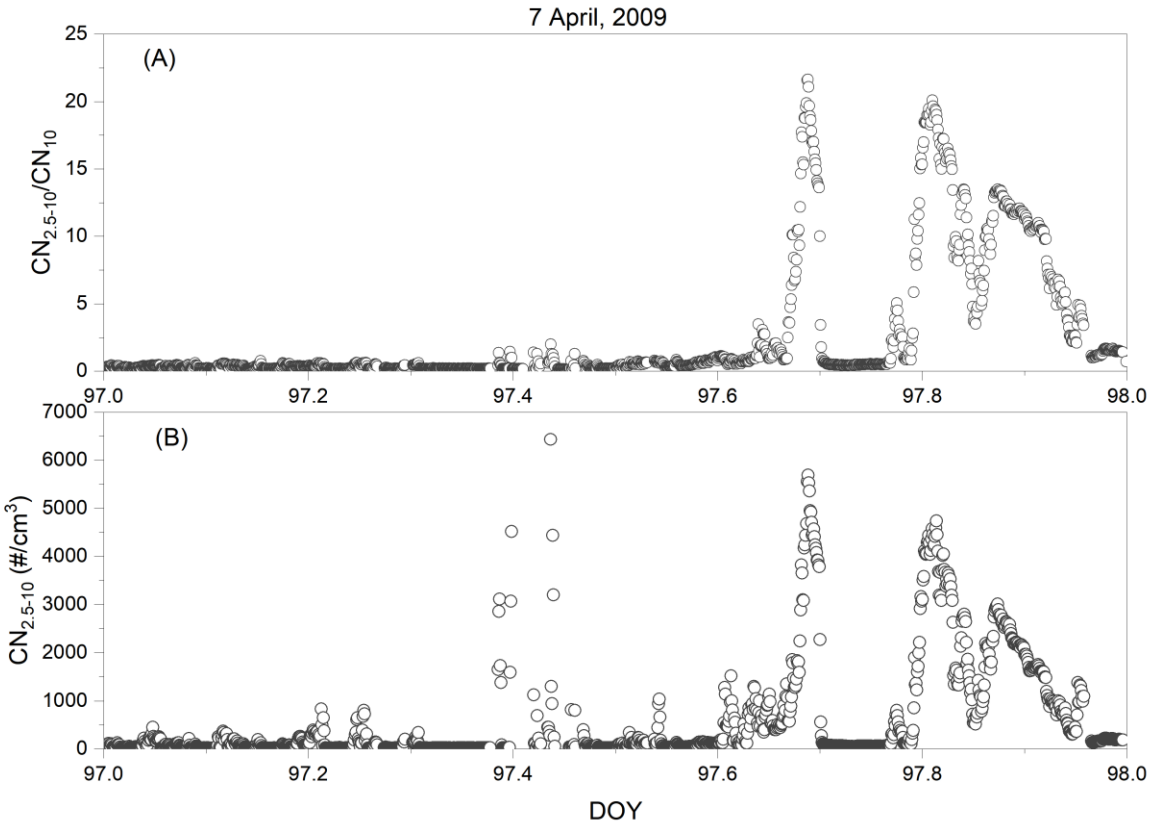

Figure S1. Example for estimation of the formation rate during NPF event on 7 April 2009: (a) $CN_{2.5-10}/CN_{10}$ and (b) $CN_{2.5-10}$ concentration with 1-minute time resolution.

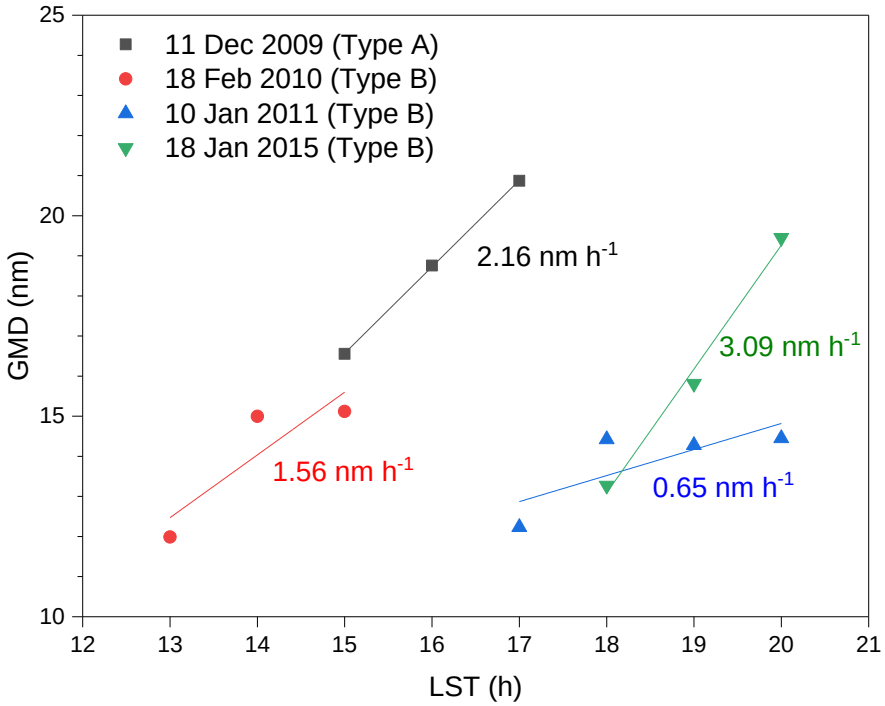

Figure S2. Geometric mean diameter (GMD) of particles ranging from 10 nm to 25 nm as a function of the time: the growth rate (nm h^{-1}) was calculated as the regression slope. The LST means local standard time.

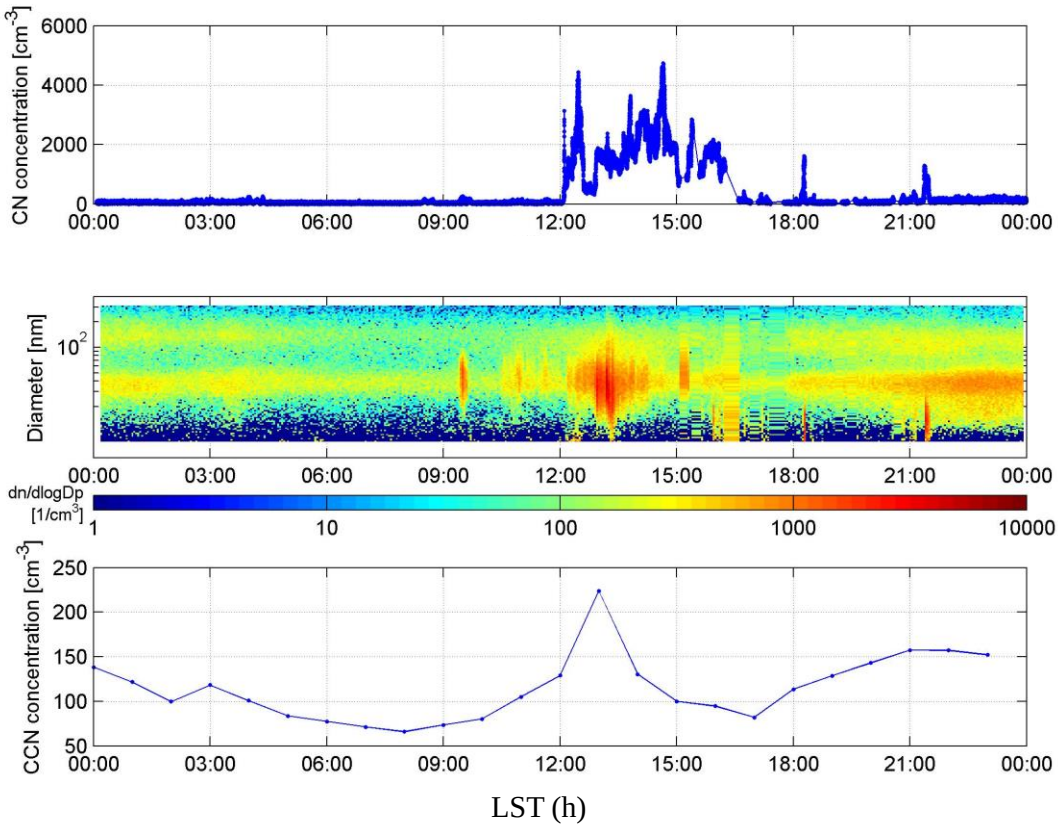

Figure S3. Example of comparison among CN concentrations from CPC data (upper panel), size distribution from SMPS data (middle panel) and hourly mean CCN concentration (bottom panel) at 0.4% supersaturation value as a function of time on 30 March 2009.

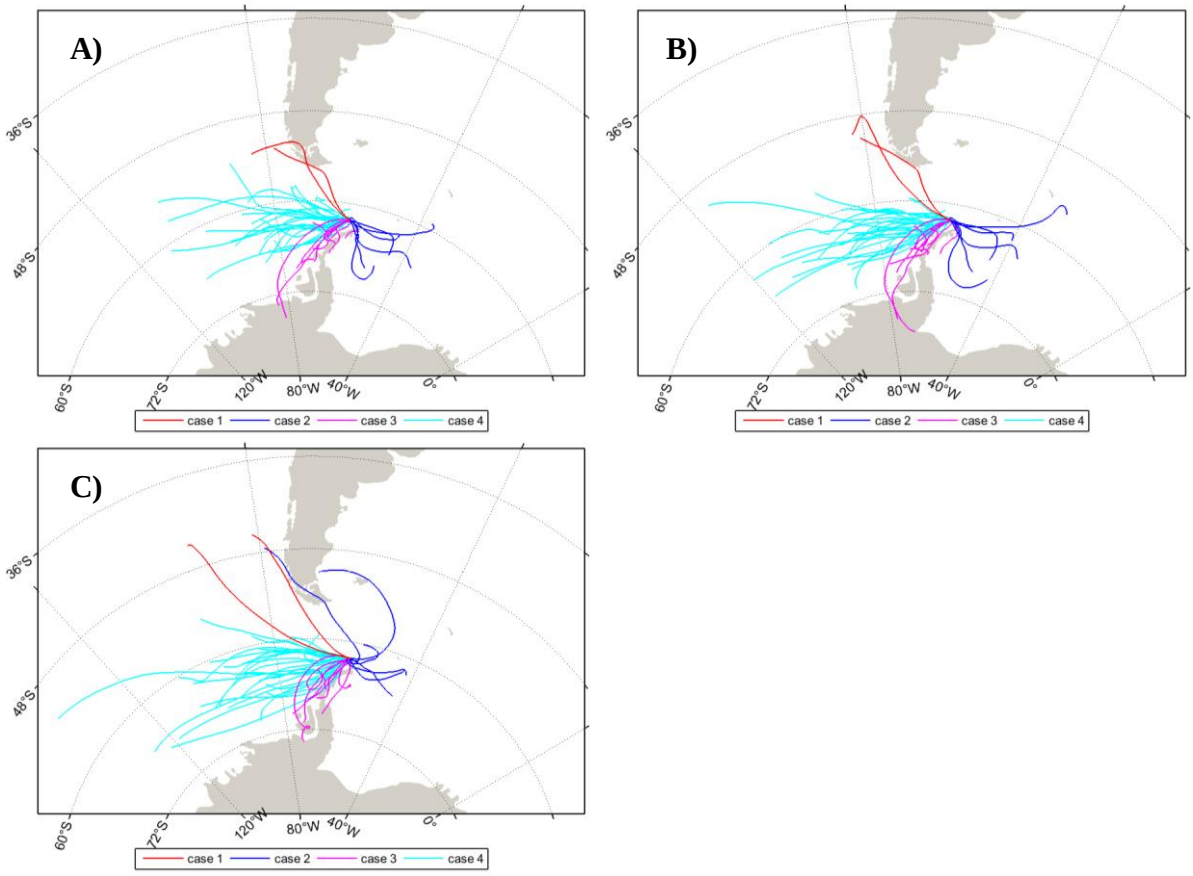

Figure S4. 48-h air mass backward trajectories at height of (a) 100m, (b) 500 m and (c) 1500 m above the ground level of the sampling site. Because 2-day trajectories can't be classified in four cases based on category method in this study, 99-day trajectories were shown. Red, blue, pink and cyan colored line indicate that air masses originated from the South America area (Case I), Weddell Sea (Case II), Antarctic Peninsula area (Case III) and Bellingshausen Sea (Case IV), respectively.