

Supplementary Materials: Aerosol from Biomass Combustion in Northern Europe: Influence of Meteorological Conditions and Air Mass History

Jun Noda ^{1,2}, Robert Bergström ^{1,3,4}, Xiangrui Kong ¹, Torbjörn L. Gustafsson ¹,
Borka Kovacevik ^{1,5}, Maria Svane ^{1,6}, and Jan B. C. Pettersson ^{1,6,*}

¹ Department of Chemistry and Molecular Biology, Atmospheric Science, University of Gothenburg, SE-412 96 Gothenburg, Sweden;

² School of Veterinary Medicine, Rakuno Gakuen University, Ebetsu, Hokkaido 069-8501, Japan;

³ Swedish Meteorological and Hydrological Institute, SE-601 76 Norrköping, Sweden;

⁴ Department of Space, Earth and Environment, Chalmers University of Technology, SE-412 96 Gothenburg, Sweden;

⁵ Belnigo Consulting, str.Boris Sarafov 42/2/8, Skopje, RN, Macedonia;

⁶ Gothenburg Centre for Sustainable Development, GMV Chalmers University of Technology & University of Gothenburg, Aschebergsgatan 44, SE-412 96 Göteborg, Sweden;

* Correspondence: janp@chem.gu.se

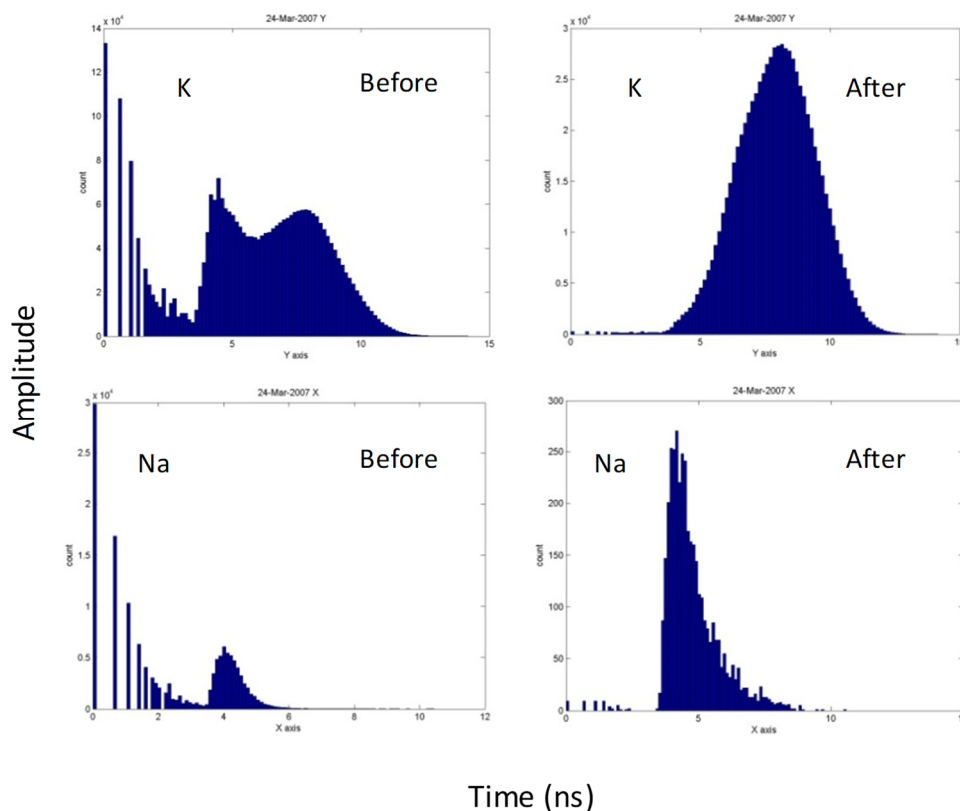


Figure S1. Examples of Na and K spectra before and after noise reduction treatment.

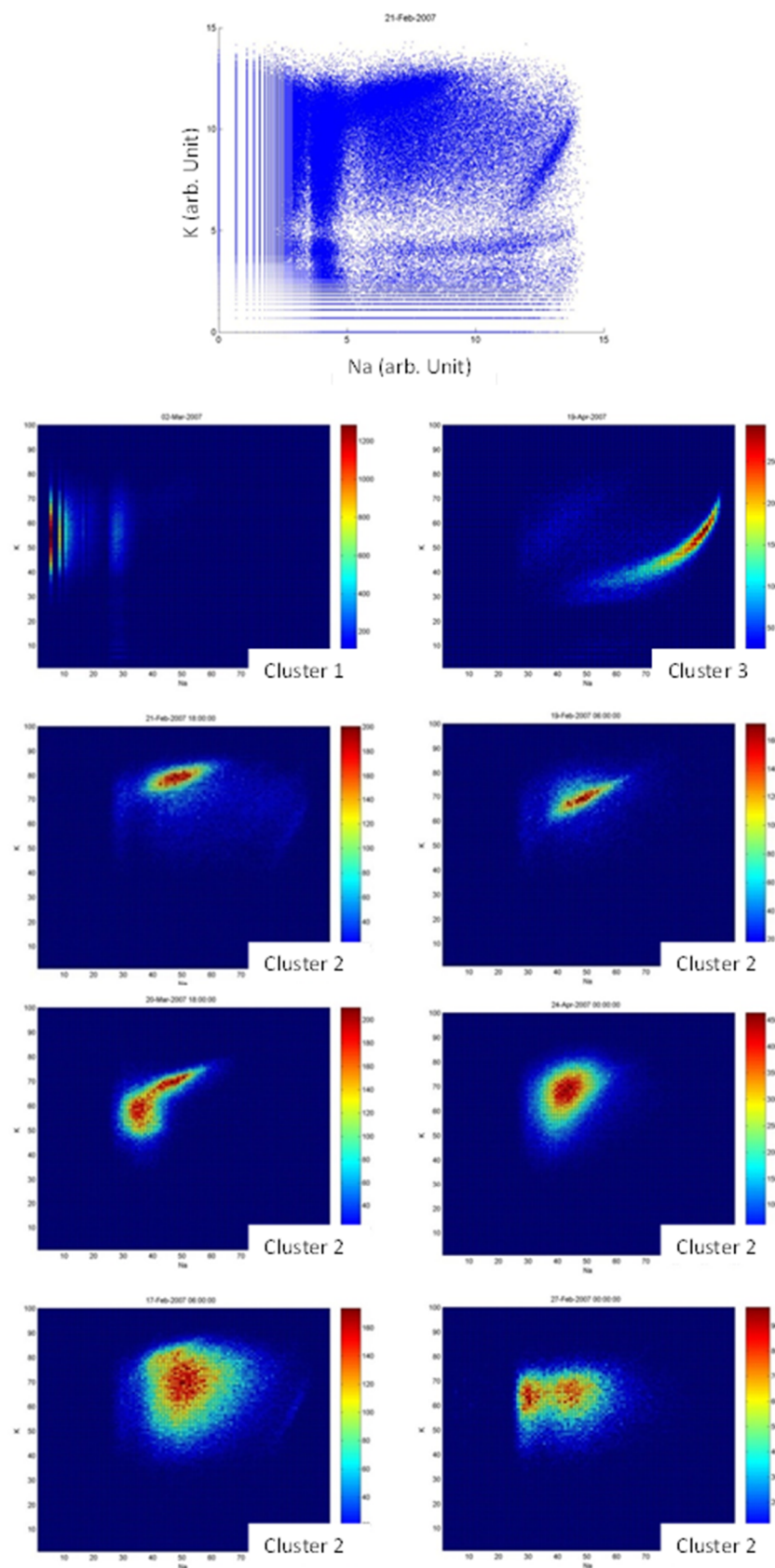


Figure S2. Illustrations of spectra dominated by different clusters shown in color map. Different sub-modes are included in cluster 2. The sampling period for each map is 6 hours.

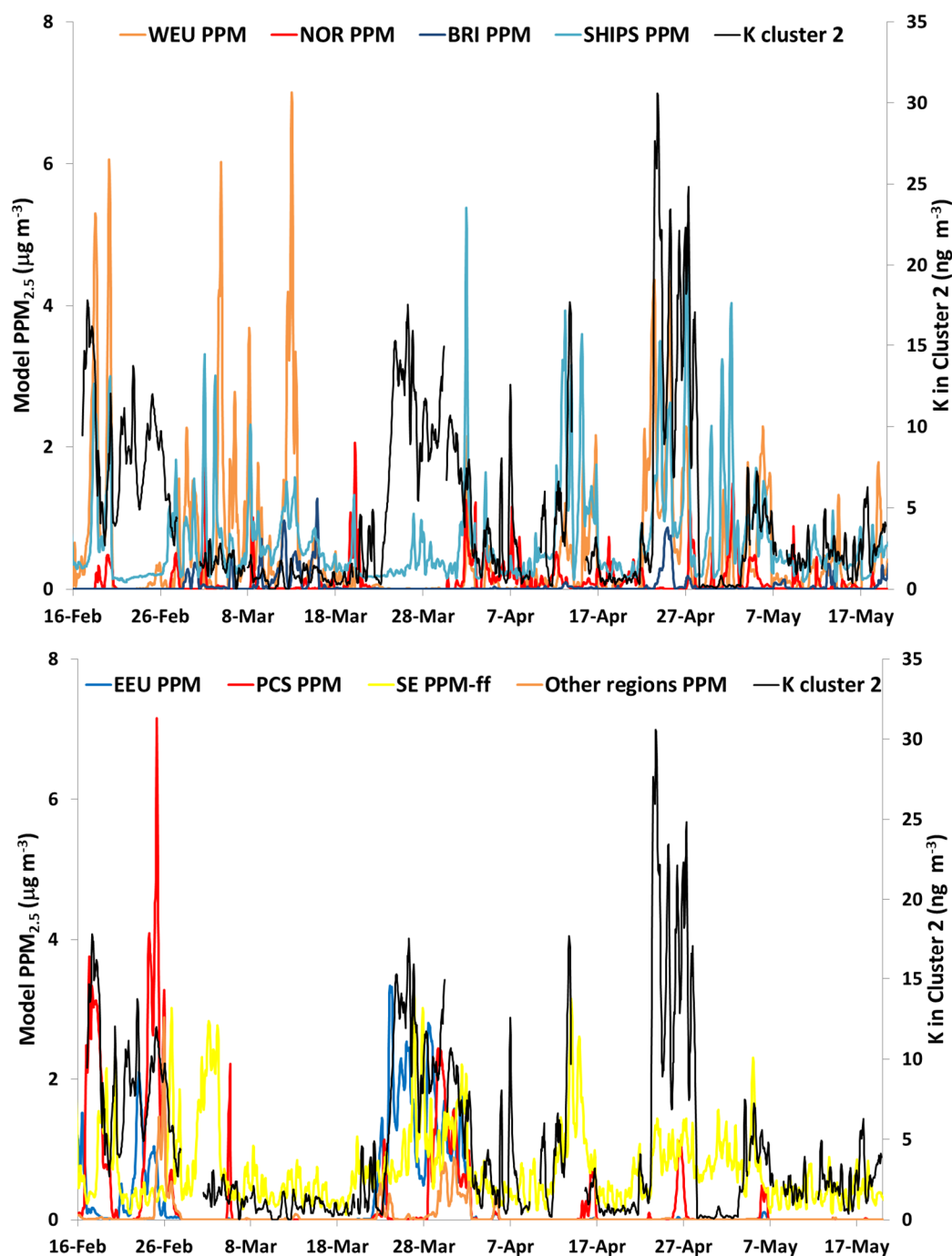


Figure S3. Modeled (hourly average) primary PM_{2.5} (PPM_{2.5}) from different regions and measured (6-h average) concentrations of K in Cluster 2. The upper panel shows modeled PPM_{2.5} from WEU = Denmark, Germany, BeNeLux and France (orange line); NOR = Norway (red); BRI = UK and Ireland (blue); SHIPS = international shipping (turquoise). The lower panel shows modeled PPM_{2.5} from EEU = Russia, Belarus, the Baltic states, Finland and Ukraine (blue line); PCS = Poland, Czechia and Slovakia (red); Other = all other non-Swedish regions (mainly central and southern Europe) (orange), and modeled PPM from fossil fuel sources in Sweden (SE PPM-ff, yellow line). The measured K concentration in Cluster 2 is shown in both panels (black line). Units, model results: µg m⁻³; measurements: ng K m⁻³.

