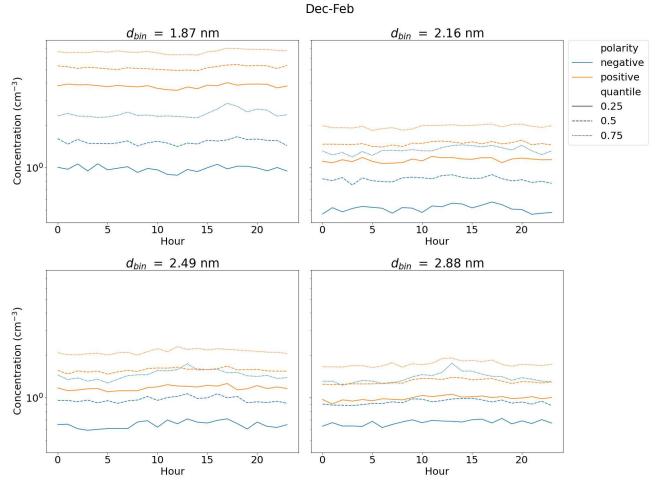
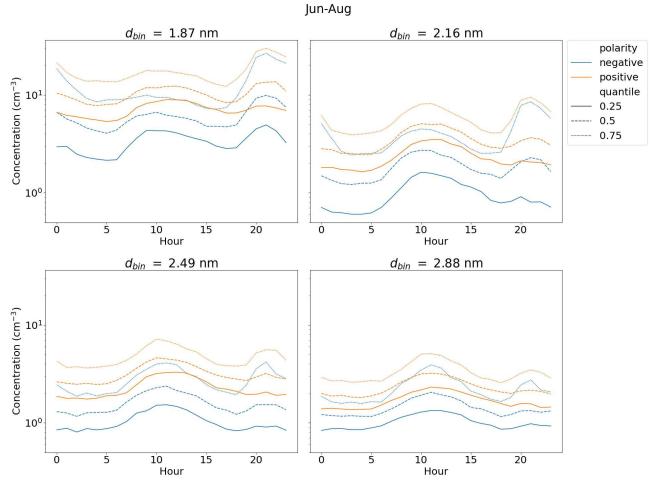
## Supplementary of Intermediate ions as indicator for local new particle formation Santeri Tuovinen et al.

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**Fig. S1:** Hourly ion concentrations from December-February in size bins with geometric mean mobility diameter  $d_{bin}$  based on median, 25%, and 75% quantiles. The ion concentrations were measured by Neutral cluster and Air Ion Spectrometer (NAIS) at SMEAR II measurement station in Hyytiälä, Finland from 2016 to 2020.



**Fig. S2:** Hourly ion concentrations from December-February in size bins with geometric mean mobility diameter  $d_{bin}$  based on median, 25%, and 75% quantiles. The ion concentrations were measured by Neutral cluster and Air Ion Spectrometer (NAIS) at SMEAR II measurement station in Hyytiälä, Finland from 2016 to 2020.