Supplement of

On the relation between apparent ion and total particle growth rates in the boreal forest and related chamber experiments

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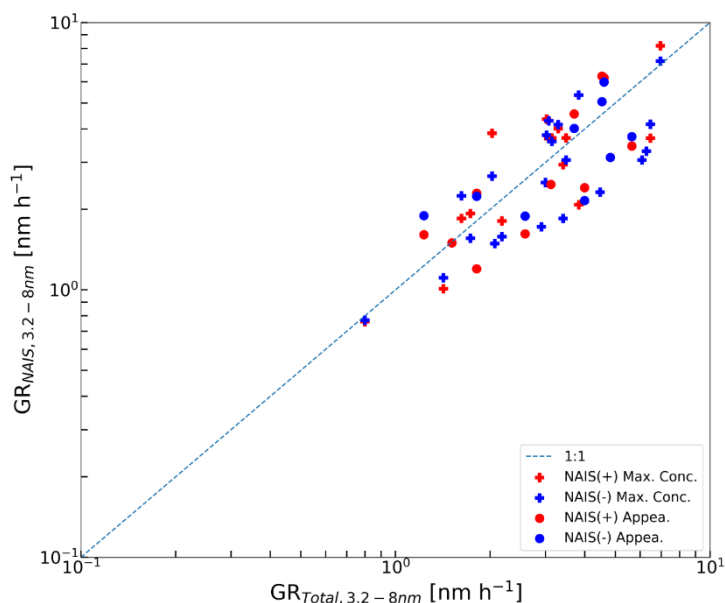
Figure S1: Comparison of 3.2-8 nm ion (measured with NAIS) and total (measured with DMA-Train) particle growth rate obtained from both methods (maximum concentration method crosses and appearance time method circles) with the blue dashed line again indicating the 1:1 ratio. Red symbols correspond to a measurement of the positive ion growth rate and blue symbols correspond to the measurement of the negative ion growth rates.
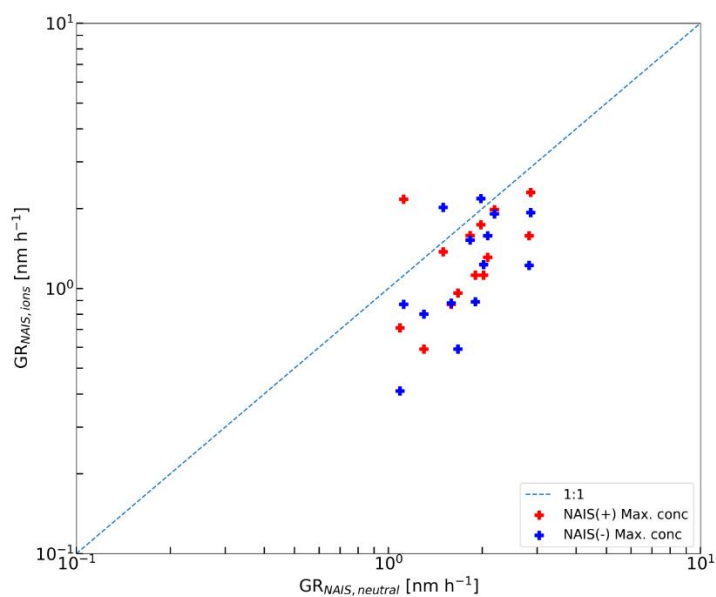
Figure S2: Comparison of sub 3-nm ion (measured with NAIS) and total (measured with NAIS) particle growth rate obtained from maximum concentration with the blue dashed line again indicating the 1:1 ratio. Red symbols correspond to a measurement of the positive ion growth rate and blue symbols correspond to the measurement of the negative ion growth rates.
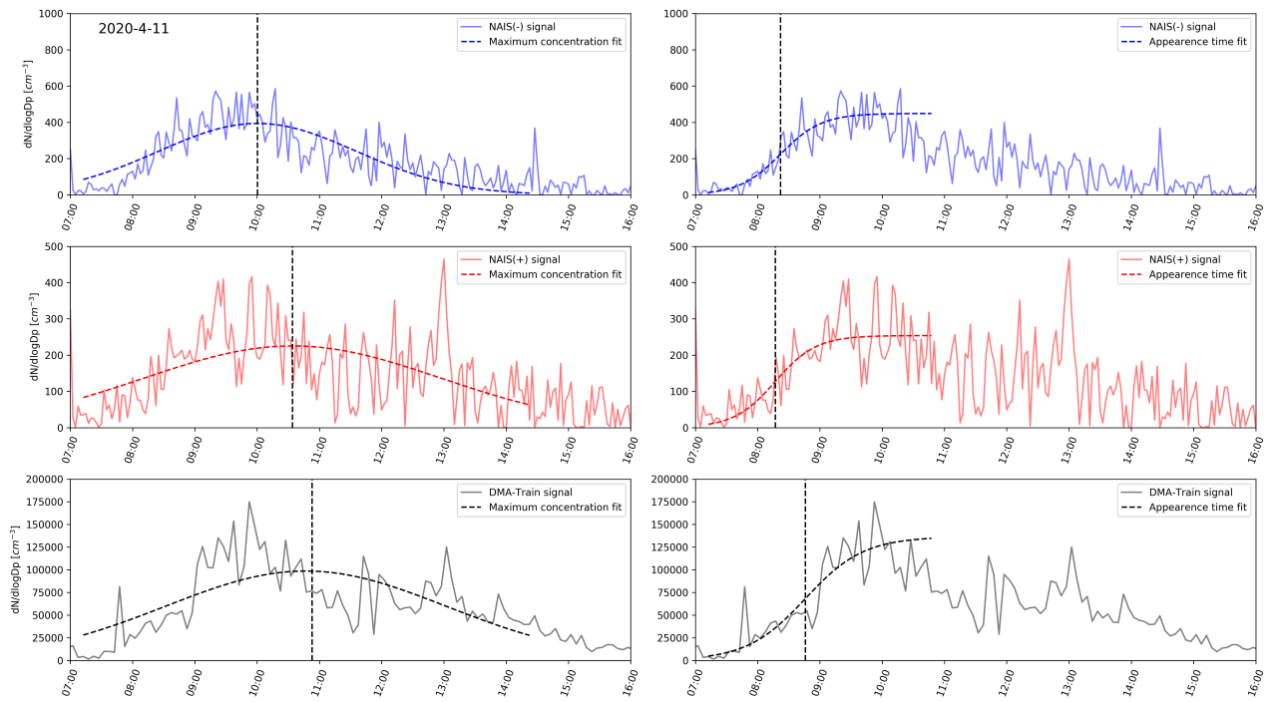
Figure S3: Illustration of the earlier maximum concentration and appearance times for the ion populations (upper two panels, blue negative ions and red positive ions, measured by NAIS) compared to the total (neutral plus charged, measured by DMA-train). Measured data for the 11th of April 2020 as solid lines, dashed lines in left panels show the maximum concentration fit (Gaussian shape, see Hirsikko et al., 2005) and the dashed lines on the right panels show the appearance time fit (Sigmoidal shape, see Stolzenburg et al., 2018). The vertical dashed lines indicate the point of the maximum concentration or 50% appearance time point as a result of the fit.