



Supplement of

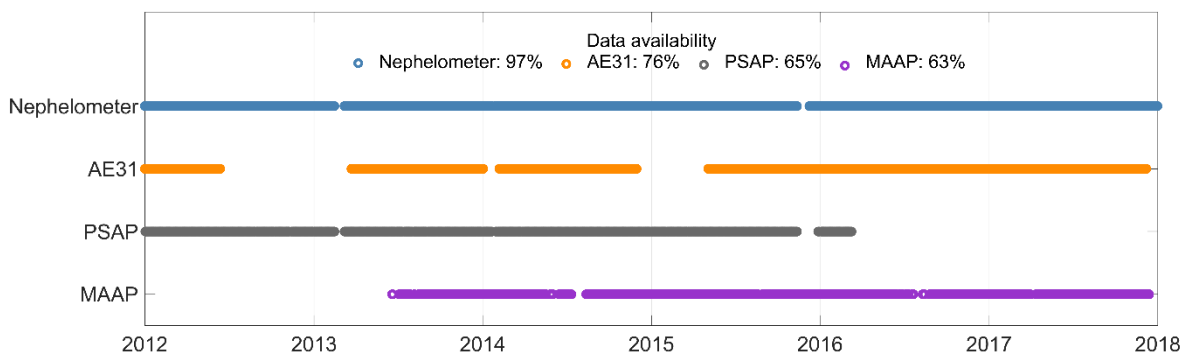
**Effects of different correction algorithms on absorption coefficient
– a comparison of three optical absorption photometers at
a boreal forest site**

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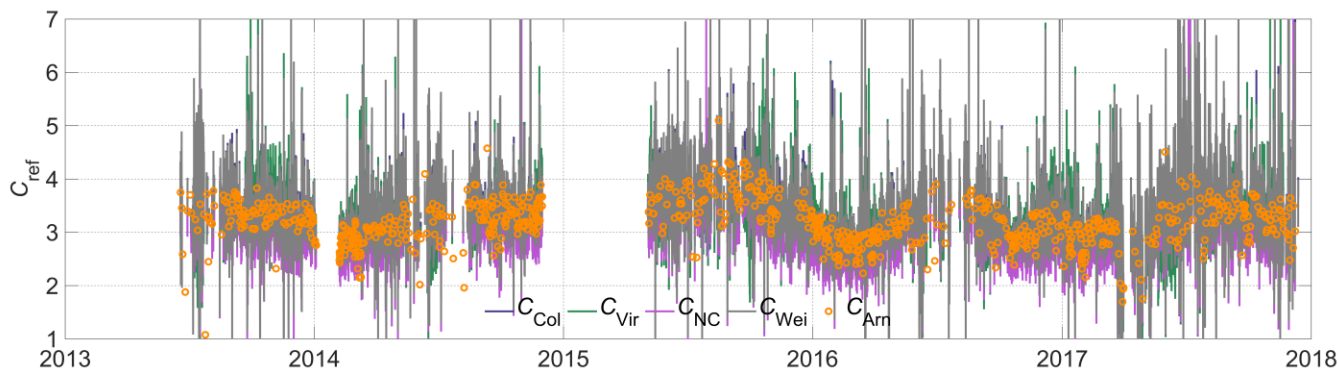
S1 Data availability



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Figure S1: The availability of the optical aerosol data at SMEAR II station from the integrating nephelometer, AE31, PSAP, and MAAp. The dots represent days that had at least 50% of data available. The data availability for each instrument for the whole period of 2012 - 2017 is given in the legend.

S2 The variation in C_{ref}



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Figure S2. C_{ref} for different correction algorithms.

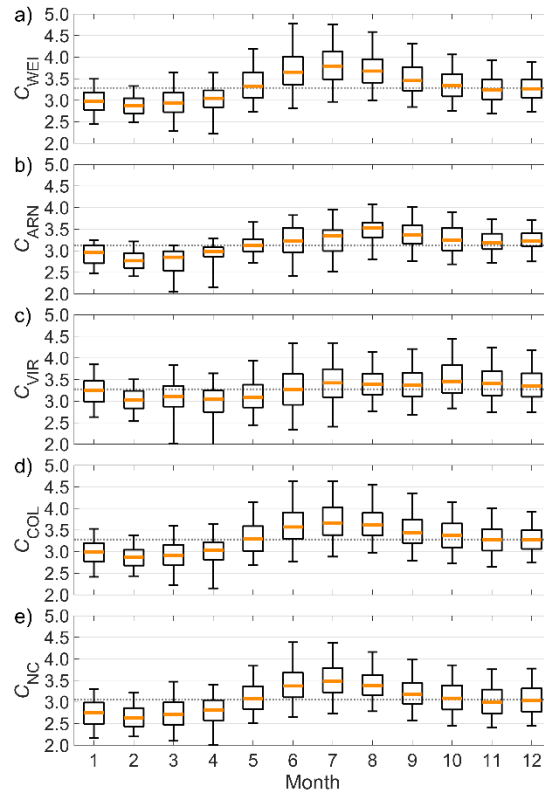


Figure S3: The monthly statistics of the C_{ref} for different correction algorithms. The orange line in the middle represents the monthly median, the edges of the boxes are the 25th and 75th percentiles and the whiskers are the 5th and 95th percentiles.

S2 Effect of loading on σ_{abs}

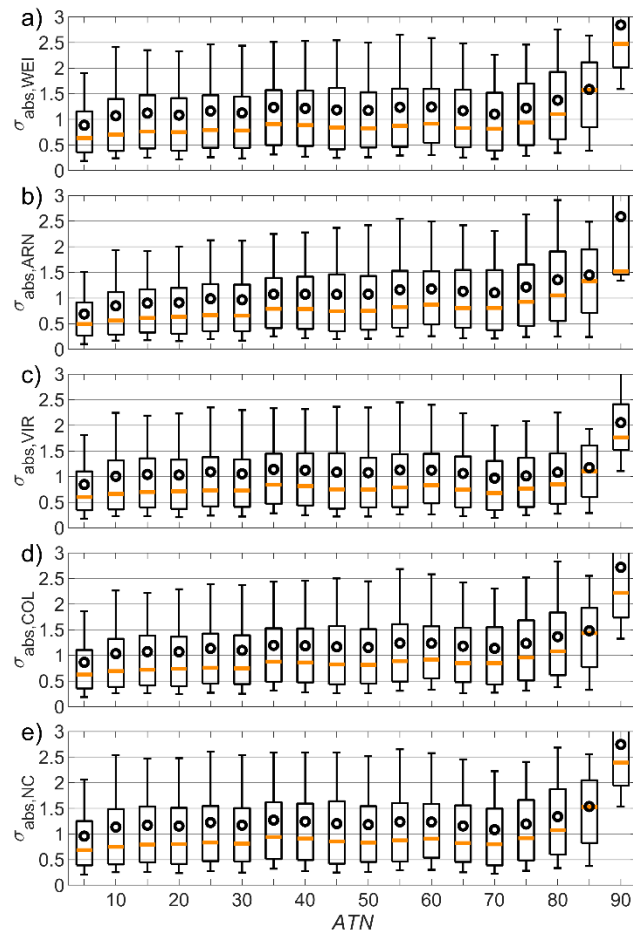
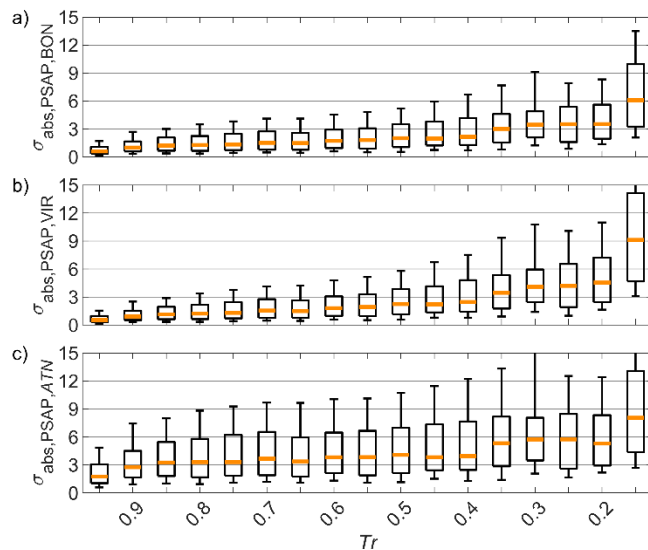
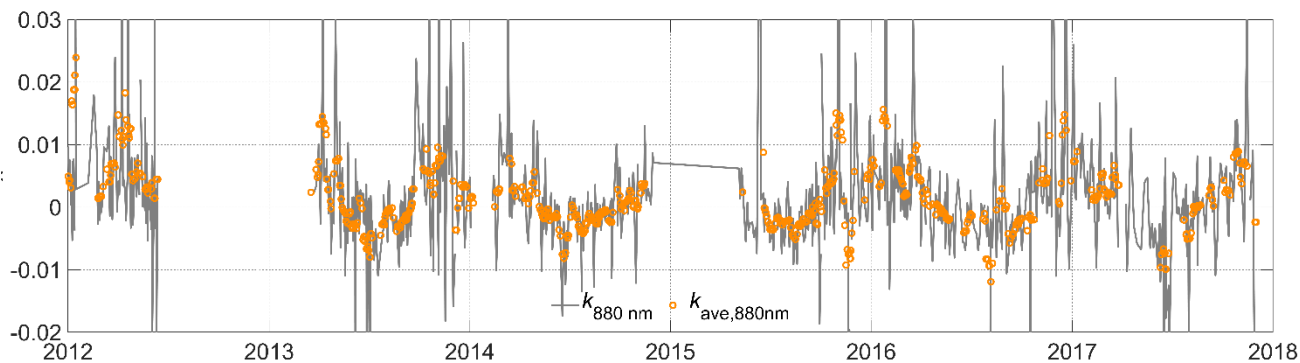


Figure S4: Dependency of σ_{abs} on the *ATN* for different AE31 correction algorithms.



Figures S5: The dependency of σ_{abs} on the Tr for different PSAP correction algorithms.

S4 The time series of the compensation parameter



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Figure S6: Time series of the compensation parameter (k) at 880 nm. The figure is presented for both “raw” k values and the averaged ones.