

Interactive comment on “Chemical characteristics of brown carbon in atmospheric particles at a suburban site near Guangzhou, China” by Yi Ming Qin et al.

Anonymous Referee #3

Received and published: 29 August 2018

This manuscript describes measurements of brown carbon and black carbon contributions to aerosol light absorption at a site near Guangzhou, China. The measured brown carbon light absorption is correlated with organic aerosol (OA) composition measured with an AMS. A multiple regression analysis is used to characterize the relationship between brown carbon light absorption and different types of OA species that were obtained via PMF/ME-2 analysis of the AMS data. This manuscript is well written and the work that is described is good and will be of definite interest to the readers of this journal. I recommend publication after the authors address a few minor comments.

1) The authors mention that there is a correlation of brown carbon absorption with

C1

N-containing ions. It would be very useful if the authors could provide a table of the N-containing ions that are observed so that they could be potentially used as tracers and checked for in other sites as well.

2) The authors do not mention how the N-containing ions are distributed across the various OA components. Are they primarily in the BBOA component or are some also found in the LVOOA as well?

3) It would be interesting to see the diurnal cycle in the multiple regression analysis results of scattering at one or more wavelengths.

Interactive comment on Atmos. Chem. Phys. Discuss., <https://doi.org/10.5194/acp-2018-730>, 2018.

C2