

Interactive comment on “Photophoretic spectroscopy in atmospheric chemistry – high sensitivity measurements of light absorption by a single particle” by Nir Bluvshstein et al.

Anonymous Referee #2

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Questions:

This seems to be only applicable to droplets that are neither strongly nor weakly absorbing (i.e. the k range of 10^{-4} to 10^{-5} stated in the abstract).

- Is that the actual dynamic range?
- Isn't k for brown carbon (BrC) typically much larger than those values? I mention this because BrC is presented as the motivation for the development of the technique.
- What atmospheric systems could this technique be applied to? I would imagine weak absorbers (e.g. aqueous sea salt aerosol) have a k that is too small while strong absorbers (the aforementioned BrC) have a k that is too large.
- Why no measurements of, for example, aqueous humic acid?

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Minor comments:

- no need to use a non-standard symbol like χ for the size parameter when the standard x will do fine.
- Line 134: "retrieved by minimizing the difference between measured and calculated wavelength" I assume you mean minimizing the sum of squared differences?
- use of the times symbol in many equations is unnecessary.
- Line 225: What is the viscosity of PEG400?
- Line 269: "473-nm" to "473 nm"
- Figure 2 caption: intensity units are italics when they should not be.

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