

## ***Interactive comment on “Measurement and modeling of the multi-wavelength optical properties of uncoated flame-generated soot” by Sara D. Forestieri et al.***

### **Anonymous Referee #2**

Received and published: 23 May 2018

The manuscript presents a thorough description of optical property measurements conducted during a series of experiments examining soot emissions from two different types of flames. It presents a detailed analysis of the merits of Mie and RDG approximations of uncoated soot optical properties, and explores implications for climate models. The experiments and measurements are of a high quality and provide an extremely useful collection of data for interpretation of similar measurements performed for other BC emission sources. They raise important questions regarding treatment of BC in climate models, and I look forward to their future work related to coated BC properties.

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I recommend its publication in ACP with only a few minor corrections, listed below.

The reference in the introduction giving an upper end estimate of potential BC forcing is now 10 years old, and this section would benefit from including one or two more recent estimates, though I understand the authors are pointing out an extreme case.

Page 8, line 4: please be specific as to what "size" is referring to here...mobility diameter or mass.

Page 8, line 22: stating truncation angles for the CAPS-SSA here would be helpful.

Page 9 - i believe the equations for MAC should have units of area, not inverse Mm.

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Interactive comment on Atmos. Chem. Phys. Discuss., <https://doi.org/10.5194/acp-2018-306>, 2018.

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