

Review on revised “Radiative Heating Rate Profiles over the Southeast Atlantic Ocean during the 2016 and 2017 Biomass Burning Seasons” by Collow et al.

The authors have made a substantial effort in revising the manuscript especially the Introduction section, with stronger motivation and literature review. The organization of sections is also better overall. The authors have made thoughtful responses to the reviewer's comments and incorporated most of the suggested changes. I recommend that this version of the manuscript be published pending some minor comments/technical corrections listed below:

Abstract, Line 30: extremely sensitive to the single-scattering albedo assumptions in the models.

Line 15: biomass burning aerosol plumes/layers extend up to 3- 4.5 km....

Line 18-19: ‘global models commonly allow’ -> please change the wording here to something like, models simulate.

Line 33: “SSA are from MERRA-2, and were scaled in the vertical by the profile of mixing ratio for the individual species (GMAO, 2015; GMAO, 2015b). The value for SSA at 550 nm from MERRA-2 was used and assumed to be spectrally independent.”

Since you mention in your findings that assumptions of SSA are very important for heating rate calculations, could you list a number or a range for SSA values that you calculated in the model for the typical smoke mixture (based on the mixing ratio profiles) you observed in your study? Also, could you add a few sentences on what are the implications on using spectrally ‘independent’ SSA for you heating rate calculations, and how would they differ from reality?