

# ***Interactive comment on “Relative Importance of Black Carbon, Brown Carbon and Absorption Enhancement from Clear Coatings in Biomass Burning Emissions” by Rudra P. Pokhrel et al.***

C. He

cenlinhe@atmos.ucla.edu

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The authors used different methods to investigate the relative contributions of BC, BrC, and coating enhancement to the total absorption of biomass burning aerosols. The analysis and results could improve our understanding on aerosol absorption for biomass burning emissions. I have a short comment.

Recent studies showed that BC optical properties are also significantly influenced by particle (coating) structures in addition to coating thickness (He et al., 2015, 2016), which could be an important uncertainty source in determining aerosol absorption. It would be useful if the author could include these references and add some discussions on this aspect to highlight potential uncertainty associated with these important factors

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in affecting BC/BrC absorption.

#### References:

He, C., Liou, K.-N., Takano, Y., Zhang, R., Levy Zamora, M., Yang, P., Li, Q., and Leung, L. R.: Variation of the radiative properties during black carbon aging: theoretical and experimental intercomparison, *Atmos. Chem. Phys.*, 15, 11967–11980, doi:10.5194/acp-15-11967-2015, 2015.

He, C., Y. Takano, K. N. Liou, P. Yang, Q. B. Li, and D. W. Mackowski: Intercomparison of the GOS approach, superposition T-matrix method, and laboratory measurements for black carbon optical properties during aging, *J. Quant. Spectrosc. Radiat. Transf.*, 184, 287–296, doi:10.1016/j.jqsrt.2016.08.004, 2016.

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Interactive comment on *Atmos. Chem. Phys. Discuss.*, doi:10.5194/acp-2016-1009, 2016.

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