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www.atmos-chem-phys-discuss.net/11/C13509/2011/

Atmospheric Chemistry and Physics Discussions

Interactive comment on "Evaluation of the smoke injection height from wild-land fires using remote sensing data" *by* M. Sofiev et al.

Anonymous Referee #1

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This article provides an excellent new approach to calculating plume rise heights for a 3-D chemical transport model. The formulation of the problem and the new equation is refreshing and very helpful to a chemical modeler.

A supplemental section summarizing the implementation of the algorithm would be helpful for modelers if they try to implement the new approach. For example, the calculation of FRP from Bouyancy Flux would be useful.

Some minor text improvements: Line 24 p. 27938: change to "The bulk of atmospheric models distribute the fire emissions in the plume homogeneously ..."

Line 8 p. 27939: "The biomass burning in Central America is usually less intensive, so that Hp $\sim$0.9-1.5km as suggested ..."

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Line 13, p. 27939: "Despite the apparent near-consensus ..."

Line 11 p. 27953: "In general cases, such information is not available, which ..."

Interactive comment on Atmos. Chem. Phys. Discuss., 11, 27937, 2011.