

Interactive comment on “Investigation of CO, C₂H₆ and aerosols in a boreal fire plume over eastern Canada during BORTAS 2011 using ground- and satellite-based observations, and model simulations” by D. Griffin et al.

Anonymous Referee #2

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General comments:

The authors present a study of biomass burning products such as CO, C₂H₆, and aerosols in a boreal fire plume. The study is based on ground-based FTIR measurements, satellite data from IASI and model data. Periods with increased amounts of biomass burning products are investigated. Column amounts and derived enhancement factors are compared with model data obtained from GEOS-CHEM model runs.

The paper is written and structured well. The subject is fully appropriate for publication

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in ACP. I recommend publication after minor revisions.

Specific comments or questions:

- ‘... we will focus in our study on carbon monoxide (CO) and ethane (C₂H₆) as well as fine mode aerosols.’ Why don’t you include additional biomass burning products such as HCN or C₂H₂ in your study, as done for example in Vigouroux et al., ACP, 2012?

- Is the detector response linear although no optical filters are used? Or do you correct the spectra for non-linearity?

- How does the CO results compare with studies of previous biomass burning events as investigated for example in Yurganov et al., JGR 2004 and Yurganov et al., ACP 2005?

Technical corrections:

P. 11092, line 4: and are => are

Figs. 2, 7 & 8: Axis title and tick labels are a bit small.

Interactive comment on Atmos. Chem. Phys. Discuss., 13, 11071, 2013.