

## ***Interactive comment on “Impact of primary formaldehyde on air pollution in the Mexico City Metropolitan Area” by W. Lei et al.***

### **Anonymous Referee #1**

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The paper studies the impacts of HCHO on atmospheric chemistry in a large city (Mexico City). The study includes many important aspects; including the effects of primary HCHO emission on the HCHO budget in this region, the influences of HCHO on radical budgets, and the impacts of HCHO on ozone budget. The model simulations are compared with surface measurement, and show a generally good agreement. The paper is well structured and well written. I recommend to publishing this paper with some minor revisions.

(1) On page 19615, the equation (3) is not very well defined. The authors should clearly state what are the radical initiation rates ( $H_{\text{Onew}}$ , &#8230;). (2) In Fig 5, they use 1.5 ppbv HCHO as the background condition. I think this should be better justified, including what is the physical meaning of the background condition, and why use 1.5 ppbv

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as the background condition. (3) In Fig 4, they discuss the impacts of VOCs (olefin) on the zone formation in the Mexico City region. This issue has been detailed discussed by Tie et al. (2007), and they should add contexts about their results regarding this issue.

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Interactive comment on Atmos. Chem. Phys. Discuss., 8, 19605, 2008.

**ACPD**

8, S10190–S10191, 2009

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