

Interactive comment on “Tropospheric ozone sources and wave activity over Mexico City and Houston during MILAGRO/Intercontinental Transport Experiment (INTEX-B) Ozonesonde Network Study, 2006 (IONS-06)” by et al.

Anonymous Referee #1

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General comments:

The paper is well researched and well written, assessing the contributions of different parameters to the tropospheric ozone budget over Houston and Mexico City, in the spring and summer of 2006, based on ozonesondes launched from both cities.

Specific comments:

1. page 5986, line 10: clarify which definition of the tropopause is used - is this the tropopause based on the temperature profile measured by the sonde?

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2. page 5989, lines 16-24: the attribution of enhanced ozone in the UT over N America in summer to lightning activity is also supported by the work of Hudman et al (2007) based on aircraft data from INTEX-A, and Parrington et al (2008) based on the assimilation of tropospheric ozone data from TES.

3. page 5990, line 16: why is the FT O₃ column over MCB smaller than Houston? is this because the air over MCB originates from tropical marine areas, as described in section 3.1? or is there enhanced photochemistry in the sub-tropics reducing the FT O₃ abundance?

4. page 5990, line 25: the ST contribution only appears to be so considerable on 7 March. On 14, 17, 19 and 20 March the ST contribution is small relative to the total budget over MCB and much smaller compared to Houston.

5. page 5993, line 17 (and abstract line 11): do the authors mean a double tropopause based on the temperature profile? or a double ozonopause as derived from the ozone profile (as described in section 3.1 - p. 5986, line 21)?

Interactive comment on Atmos. Chem. Phys. Discuss., 8, 5979, 2008.

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