Atmos. Chem. Phys. Discuss., 7, S7794–S7795, 2007
www.atmos-chem-phys-discuss.net/7/S7794/2007/

Atmospheric Chemistry and Physics Discussions

Interactive comment on "Vertical distribution of ozone and VOCs in the low boundary layer of Mexico City" *by* E. Velasco et al.

E. Velasco et al.

Received and published: 19 December 2007

We thank the two reviewers and the editor for their constructive comments and suggestions, which helped to improve our manuscript. We have addressed the reviewers' comments and have revised the manuscript accordingly. In the following paragraphs we provide general response to the reviewers' comments. More detailed responses to the reviewers' comments are provided in the additional document submitted together with the corrected manuscript. General response to the comments from the two reviewers:

Both reviewers suggested to provide a better context for our observations using the most recent published results on the formation of secondary pollutants in Mexico City. The revised manuscript includes references to those results from field measurements and modeling exercises. Most of them were obtained during the MCMA-2003 field

campaign. The revised manuscript includes also references to results from the IMADA-AVER experiment in 1997, which included diverse meteorological measurements to characterize the boundary layer of the Valley of Mexico. It is important to point out that all vertical profiles presented in this manuscript were measured before the MILAGRO campaign in March 2006, and therefore cannot be directly correlated to measurements performed during MILAGRO.

Although the profiles were measured on different days, seasons and years, the observed consistency allowed an easy and clear interpretation of the evolution of the low boundary layer of Mexico City plotting all the profiles in the same figures. Both reviewers suggested to segregate the profiles in individual days or different types of days. To address this suggestion we used the meteorological classification for the Valley of Mexico proposed by de Foy et al. (2005) for the measurements made during the MCMA-2003 field campaign. The revised manuscript includes a new section discussing the observed differences and the conclusion that the evolution of the convective boundary layer and vertical distribution of trace gases in Mexico City do not change significantly from one type of meteorological event to another.

Interactive comment on Atmos. Chem. Phys. Discuss., 7, 12751, 2007.