

Interactive comment on “Non-methane hydrocarbons source apportionment at different sites in Mexico City during 2002–2003” by E. Vega et al.

Anonymous Referee #1

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This paper presents results from an analysis of VOC ambient measurements from 1997, 2002 and 2003 field studies within Mexico City. Because of the growing understanding of the importance of megacities upon human health and also regional atmospheric chemistry, this paper is a useful contribution to the field. However, the paper attempts to incorporate a number of different analyses of VOCs in a way that is somewhat disjointed. The results might be better presented in the form of separate papers each with a specific focus. In particular, the presentation of the data and analysis of photochemical aging of Mexico City air masses could be a single paper and that would allow more consideration of the relationships between sources, meteorology and air mass chemical processing. In general, the motivation of examining maximum

VOC concentrations, relationships with airflow patterns, and photochemical aging is not clearly described. What is the goal for this portion of the analysis? In the second portion of the paper, the effects of uncertainties in the source profile needs further work. It is not sufficient to use the afternoon results which can be significantly affected by photochemistry and simply note that a photochemical module for the CMB model is needed (but not available). Further work is also need to investigate the result that diesel sources are attributed with a very high fraction of the VOC source. How sensitive are these results to any modifications in the source profiles for diesel? The paper notes that CMB had difficulties with periods with the highest VOC concentrations, but these periods are of the greatest interest.

Interactive comment on Atmos. Chem. Phys. Discuss., 7, 13561, 2007.

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