

Interactive comment on “Tula industrial complex (Mexico) emissions of SO₂ and NO₂ during the MCMA 2006 field campaign using a Mini-DOAS system” by C. Rivera et al.

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General Comment:

This paper presents interesting results that could provide important information on the regional impact of the air pollution generated in the Tula industrial corridor. It is important to note that the field measurements are in accordance with the emissions inventories and modeling, despite the great variability in the data sets. Although the information is not conclusive, it confirms the presence of high SO₂ and NO₂ emissions. Further research along the subject of this paper is most recommended due to the constant complains of the presumed implications of Tula emissions over the MCMA

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air quality.

(Minor) Specific Comments:

Page 5154 line 22

It should be made clear that the emissions information comes from the FEDERAL environmental authority in order not to confuse with other environmental authorities that could be involved as those state from the States of Mexico, Hidalgo or the Federal District.

Page 5157 lines 5-8

In order to have a clearer interpretation of the results it would be convenient to provide an explanation on how the traverses were selected and if these had to be changed as result of plume direction changes. If possible include a figure describing the traverses, at least of one of the monitoring dates.

Page 5158 line 14

Change the acronym IMP for Mexican Petroleum Institute, because it has not been defined before.

Page 5158 line 15

replace the word refinery by MHR since it was defined before as the "Miguel Hidalgo Refinery"

Page 5164 Conclusions

The conclusions show that there is an important emission of SO₂ in the Tula industrial complex. It would be important to explain in more detail the suspected influence of these emissions on the MCMA air quality in certain days when the normally low SO₂ baseline levels rise to harmful concentrations. It would be convenient to investigate with the MCMA environmental authorities if extraordinary levels of SO₂ were registered during the period of this study.

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Table 1 states that the standard deviation refers to the variability of the measurements but perhaps the variability is due to the lack of enough information as the case of the standard deviation calculation with two or three observations. Please explain.

Page 5172 Meteorological measurements

Figure 2 shows important differences in the wind speed between the data from the sounding and the pilot balloons in the region where the plume develops. These differences may cause important deviations in the estimation of the emissions. From March 24-26 pilot balloons wind data was used and sounding data on the other dates. Was a comparison of the emissions calculations done with these two data sets?

Interactive comment on Atmos. Chem. Phys. Discuss., 9, 5153, 2009.

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