

Interactive comment on “High ozone at rural sites in India” by D. Chand and S. Lal

Anonymous Referee #2

Received and published: 13 July 2004

General comments: The paper deals with the interesting topic of high boundary layer ozone levels at rural sites in India. It demonstrates the occurrence of large-scale photochemical ozone production downwind of major urban and industrial areas in the region, based on carefully planned field measurements. The paper merits publication also because few available ozone measurements at rural sites in the Indian subcontinent exist so far.

Specific comments: In 2.1 Monitoring sites. Some general information containing the size and the emission characteristics of the urban and industrial centers in the area would be helpful for the better understanding of the conditions leading to such high levels of ozone photochemical formation.

In 2.3 Meteorology. In addition to the wind pattern, some information on temperature and sunshine duration would be helpful for the readers not familiar with the region to understand better that during the mid-winter period in India the prevailing meteorolog-

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ical conditions, comparable to spring/summer conditions at mid-latitudes, might favor substantial ozone photochemical production.

In Table 1. The difference at the morning minimum urban ozone levels at Ahmedabad, could be due to the different urban NO_x levels between the two campaign periods, which consume ozone very rapidly in urban centers.

Also in Fig. 3d, the ozone decrease in the urban area of Bhavnagar should be primarily due to the ozone titration by fresh NO emissions from the nearby car exhausts. The last paragraph of the page 3366 should be modified accordingly.

Interactive comment on Atmos. Chem. Phys. Discuss., 4, 3359, 2004.

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