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Atmospheric Chemistry and Physics Discussions

Interactive comment on "Total column ozone variations over oceanic region around Indiansub-continent during pre-monsoon of 2006" *by* M. C. R. Kalapureddy et al.

Anonymous Referee #2

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This paper reports on ground based measurements made in the Indian Ocean and the Bay of Bengal. The background total ozone value for the days studied seems to be about 260 DU which is a reasonable value for that time of the year. Also the polluted values obtained are consistent with those obtained by Fishman and his co-authors, and by Thompson and her co-authors. Stehr et. al, 2000 (JGR,107) made measurements on board a ship in the Indian Ocean of ozone concentrations during the INDOEX campaign. They report a diurnal variation of from 19 to 27%. They found that the minimum was in the afternoon, and the maximum in the early morning (contrary to what one is used to). They attribute the phenomena to surface halogen chemistry. In more polluted atmospheres, over land, one also finds a strong diurnal variation,

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but with a maximum in late afternoon. So I cannot dismiss the results based on the science. The question does arise as to whether the instrument used has any diurnal bias. This could be tested for by looking at an area where the tropospheric pollution is small,that is where the column measurement is about 260 DU (i.e. the stratospheric value) Having said all that, I do not believe that the paper should be published as is. The statements I have made above could and should have been made by the authors. The authors need to do some further analysis to convince the reader of the veracity of their results.

Interactive comment on Atmos. Chem. Phys. Discuss., 8, 3143, 2008.