Atmos. Chem. Phys. Discuss., 4, S1574–S1575, 2004
www.atmos-chem-phys.org/acpd/4/S1574/


Atmospheric Chemistry and Physics Discussions

# *Interactive comment on* "Hydroxyl radicals maintain the self-cleansing capacity of the troposphere" *by* J. Lelieveld et al.

**Anonymous Referee #2**

Received and published: 17 August 2004

Lelieveld and colleagues describe review recent studies on the stability and trends of hydroxyl radical concentrations. They provide some discussion on how anthropogenic forcing by increasing NOx may offset the forcing by CO and CH4 leaving global OH concentrations relatively constant. They point to changes, however, in the geographical distribution of oxidant.

This paper reads as much like a philosophical discussion as a research report. In fact, there is very little new in the manuscript. I nevertheless found it interesting and in places, insightful. It is a nice discussion paper, but could be better organized and should include a section of recommendations for further work.

Several specific comments and questions:

Given the review nature of the paper, the title & abstract should better explain the

motivation and provide a ŞroadmapŤ for the paper.

Pg. 3700 ln 1. ŞBillions of tons [of]Ť is ambiguous (on one side of the Atlantic it means something different than on the other).

Pg 3701 ln 1. Please be more precise about how J (O1D) depends on SZA.

Pg. 3701 ln 26-27 This last sentence is quite confusing. Please reword.

Pg 3703 ln 10 ŞSince Ě seems favourableŤ more ŞluckyŤ than ŞfavourableŤ?

Pg 3703/3704 The lifetime of NOx and O3 are both highly variable and this should be recognized.

---

Interactive comment on Atmos. Chem. Phys. Discuss., 4, 3699, 2004.



**ACPD**

4, S1574–S1575, 2004

Interactive Comment