

***Interactive comment on “Variability of the total ozone trend over Europe for the period 1950–2004 derived from reconstructed data” by J. W. Krzyścin and J. L. Borkowski***

**Anonymous Referee #2**

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Anonymous Referee #2 Variability of the total ozone trend over Europe for the period 1950–2004 derived from reconstructed data. Authors: J.W Krzyscin and J.L. Borkowski Submitted to Atmospheric Chemistry and Physics.

The paper is reasonable well written, and has enough material to be worth publishing. It uses a reconstructed ozone data set, developed in the COST-726 action, for Europe. Goal is to establish ozone trends for different time periods and areas, using more sophisticated smoothing algorithms prior to trend determinations.

However, the referee has the following objections:

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UV radiation, and lack of long-term UV-times series, is used more or less as a justification for this paper. However, the authors should be/are aware of the fact that trends in ozone do not directly translate to trends in UV or UV-related effects, as the UV burden puts a far more larger weight to the warm/summer period. Hence, an unequal weighting of ozone values is intrinsic when it comes to UV or UV-related effects. This issue should be clarify to the reader.

Readers not familiar with NIWA and COST-726 reconstructed ozone might wonder why not use the NIWA-data set instead of the reconstructed ozone. As the reference Krzyscin JGR 2007 is in press, the authors are invited to explain more how the COST-data set is validated, the difference with NIWA (also the trivial ones like data period), the advantage of its use, and how it was derived.

A plot of an unsmooth time series, zonal mean ozone for instance, might help the reader to see the problem and grasp the claimed benefit of the method proposed in the paper. Also is should be made clear or shown why ordinary smoothing fails.

Editorial The main message of the paper is some what diluted and should be brought more forward.

Figures Figures are rather unclear. Map appearance should be improved, at least remove grid. Figure 4 and 5 show 3 -lines, what are they? Fig 6&7, difference between "thick" and "thin" lines is too small. Maps in fig 8 and 9 become solid black in printout, hence no information can be read from these figure.

Small remarks Use of symbol lambda is usually wavelength and phi is usually an angle, The use of articles ("the" and "a") can be better.

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