

Interactive comment on “Atmospheric oxygen and carbon dioxide observations from two European coastal stations 2000–2005: continental influence, trend changes and APO climatology” by C. Sirignano et al.

W. Tych

w.tych@lancaster.ac.uk

Received and published: 8 January 2009

My contribution is one of a Time Series specialist, looking at the trend calculation methodology applied here. This methodology however influences the results, and therefore the important interpretative side of the manuscript.

(1) It is of course a matter of point of view, but I was wondering how a non-linear trend such as the ones in Fig. 2 can be assessed without an uncertainty measure. Particularly the uncertainty of the local trend slope estimate is important in the assessment of

Full Screen / Esc

Printer-friendly Version

Interactive Discussion

Discussion Paper



the trend's significance.

(2) Admittedly, the Authors provide a piece-wise linear approximation of the trend with some slope uncertainty measures in Table 2, but the nodes selection of the linear intervals can be seen as potentially arbitrary - a slippery terrain for a scientist looking for objective results.

(3) The split of the data series between a seasonal component and a trend is a useful approach, but the Authors appear to be using a constant amplitude seasonality (at least they do not indicate otherwise), when it is clear that the data have varying seasonal amplitude. This will influence the trend estimates.

(4) As with most atmospheric measurements, highly noisy by their nature, there is a need for an objective and fair method of identifying and treating the outliers. This is hard to achieve without some statistical measure (trend uncertainty again) while preserving integrity of the data. I am not questioning the integrity of the applied procedure, but I see it as worthwhile for the Authors to give more attention to this issue, and present their procedure in the final form of the manuscript in a way that is easily reproducible by the readers.

Interactive comment on Atmos. Chem. Phys. Discuss., 8, 20113, 2008.

Full Screen / Esc

Printer-friendly Version

Interactive Discussion

Discussion Paper