

Interactive comment on “Seasonality of Peroxyacetyl nitrate (PAN) in the upper troposphere and lower stratosphere using the MIPAS-E instrument” by D. P. Moore and J. J. Remedios

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General comments

This paper is clearly written and presents an interesting result. It should certainly be published in ACPD and I anticipate it reaching ACP without substantial changes. Most of the changes that I requested at the initial reviewing stage have been made — this includes a number of typographical errors and issues to do with the clarity of the figures.

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Specific comments

Figure 4: This Figure shows up my main scientific concern with the paper. The spectrum of PAN is more-or-less flat. But in many spectral regions there are many things which have flat spectra. In the absence of any identifiable spectral features, how do we know that we are really looking at PAN and not something else? Figure 4 suggests that inventing a fictitious molecule with an exactly flat absorption spectrum would improve the fit exactly as well as PAN does.

Note that I do not mean to imply here that I do not believe that the retrieved quantity is really PAN, merely that the figures presented do not show convincing evidence of this.

Typographical and presentational issues

There are some figures in which the text is either too small or too large. (For example, in Figs 6-9 the pressure in hPa is too large and the colour bar labels are too small.) The authors should ensure that in the final paper the text in the figures is of a similar size to that in the figure captions.

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