

## ***Interactive comment on “Intercomparison and evaluation of satellite peroxyacetyl nitrate observations in the upper troposphere – lower stratosphere” by R. J. Pope et al.***

**Anonymous Referee #1**

Received and published: 11 July 2016

Comments on “Intercomparison and evaluation of satellite peroxyacetyl nitrate observations in the upper troposphere - lower stratosphere” by Pope et al.

The paper provides detailed intercomparison of peroxyacetyl nitrate from satellite observations (MIPAS and ACE-FTS), Aircraft and chemical transport model (TOMCAT). This paper provides interesting results on comparison during all the seasons. The paper is well written and can be accepted for publication in ACP after the minor revision. I suggest authors to incorporate following suggestions.

(1) Authors should add a statement as to why two-year time period 2007-2008 is used for inter comparison.

C1

(2) Although authors have cited reference, readers should know the difference between retrieval methods used by the University of Leicester (UoL) and the Institute of Meteorology and Climate Research, Karlsruhe Institute for Technology (IMK). A brief description will be appreciated.

(4) A brief description on ‘uncertainty in IMK MIPAS PAN retrieval’ should be added.

(5) conclusion sections should provide quantitative statements on comparison.

(6) X-axis and y-axis labels in figures 2, 3, 4,7,8,9, 10,11,12,13 are not clear.

---

Interactive comment on Atmos. Chem. Phys. Discuss., doi:10.5194/acp-2016-386, 2016.

C2