Atmos. Chem. Phys. Discuss., 15, C7240–C7247, 2015
www.atmos-chem-phys-discuss.net/15/C7240/2015/

Atmospheric Chemistry and Physics Discussions

Interactive comment on "Transport pathways of peroxyacetyl nitrate in the upper troposphere and lower stratosphere from different monsoon systems during the summer monsoon season" *by* S. Fadnavis et al.

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The revised manuscript and supplementary figures are attached as a supplement.

Please also note the supplement to this comment:
http://www.atmos-chem-phys-discuss.net/15/C7240/2015/acpd-15-C7240-2015-supplement.pdf

Interactive comment on Atmos. Chem. Phys. Discuss., 15, 15087, 2015.

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"Supplementary figures"

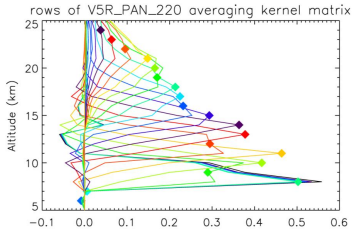

Figure S1: Averaging kernel rows of data version V5R_PAN_220 at the location 28 ^{O} N and 85 ^{O} E. Diamonds indicate the respective nominal altitudes of the retrieval grid.

Fig. 1.

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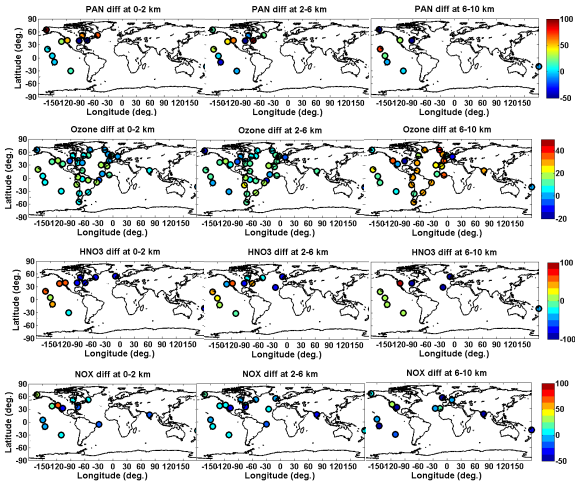

Figure S2: Global distribution of bias (ECHAM5-HAMMOZ – aircraft observations) in (PAN (ppt), ozone (ppb), HNO_3 (ppt), NO_x (ppt), for monsoon season and altitude ranges a 0-2 km. 2-6km, 6-10km.

Fig. 2.

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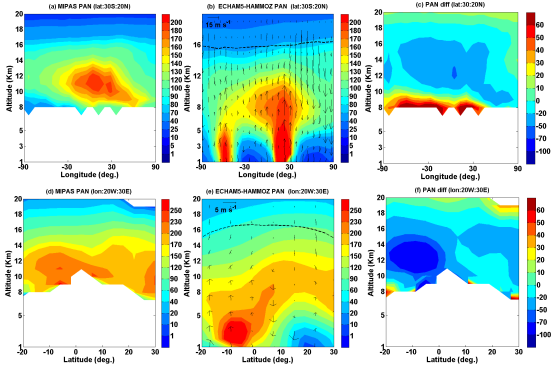

Figure S3. Longitude –altitude cross-section of PAN (ppt) averaged for monsoon season and over 30^{O} S - 20^{O} N (a) MIPAS-E climatology (b) ECHAM5-HAMMOZ CTRL simulations (c) difference in PAN (ppt) (ECHAM5-HAMMOZ-MIPAS). Latitude-altitude cross-section of PAN (ppt) averaged for monsoon season and over 20^{O} W - 30^{O} E (d) MIPAS-E climatology (e) ECHAM5-HAMMOZ CTRL simulations (f) difference in PAN (ppt) (MIPAS-ECHAM5-HAMMOZ).

Fig. 3.

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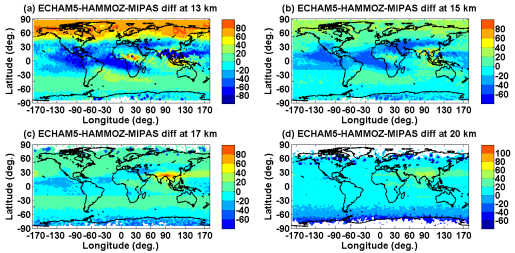

Figure S4: Differences between MIAPS observations (climatology 2002-2011) and ECHAM5-HAMMOZ reference simulation in PAN (ppt) averaged for the monsoon season (a) at 13 km (b) 15 km (c) 17 km and (d)19 km.

Fig. 4.

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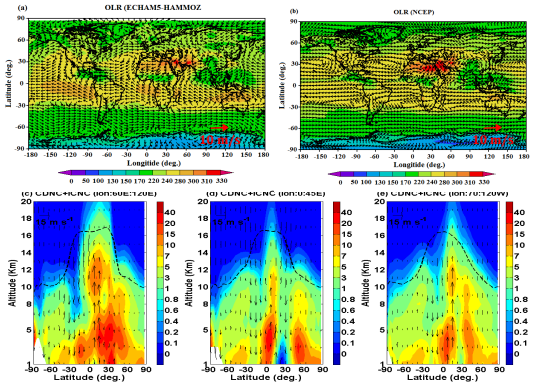

Figure S5. Distribution of simulated (a) Outgoing long wave radiations (OLR) and 850 hpa winds averaged for June–September of years 200-2010, (a) ECHAM5-HAMMOZ (b) NCEP-Reanalysis data, ECHAM5-HAMMOZ simulated cloud droplet number concentration (CDNC) and ice crystal number concentration (ICNC) (1 mg−1) averaged for June–September of years 200-2010 (c) zonal average between 60-120^{O}E and (d) zonal average between 70W and 120^{O} E (e) zonal average between 0-45^{O} E. The black arrows indicate wind vectors. In figures (c)-(e) the vertical velocity field has been scaled by 300.

Fig. 5.

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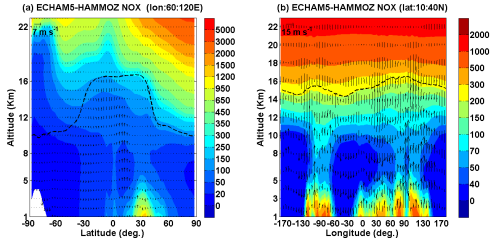

Figure S6. Seasonal mean ECHAM5-HAMMOZ NO_x (ppt) obtained from reference simulation (a) Latitude -pressure cross section averaged over 60^O E - 120^O E (b) Longitude-pressure cross section averaged over 10^O N - 40^O N. The black arrows indicate wind vectors. The vertical velocity field has been scaled by 300.

Fig. 6.

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