



Supplement of

Transport pathways of peroxyacetyl nitrate in the upper troposphere and lower stratosphere from different monsoon systems during the summer monsoon season

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“Supplementary figures”

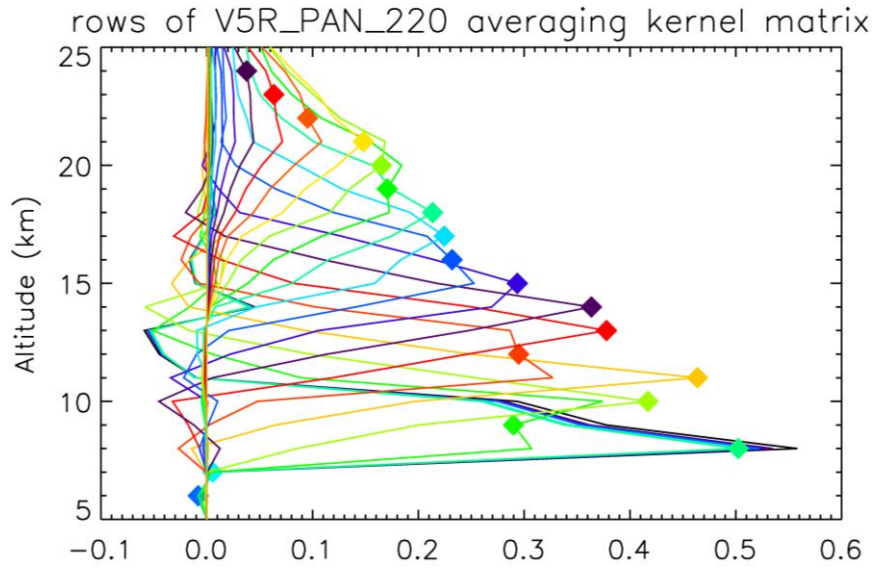


Figure S1: Averaging kernel rows of data version V5R_PAN_220 at the location 28° N and 85° E. Diamonds indicate the respective nominal altitudes of the retrieval grid.

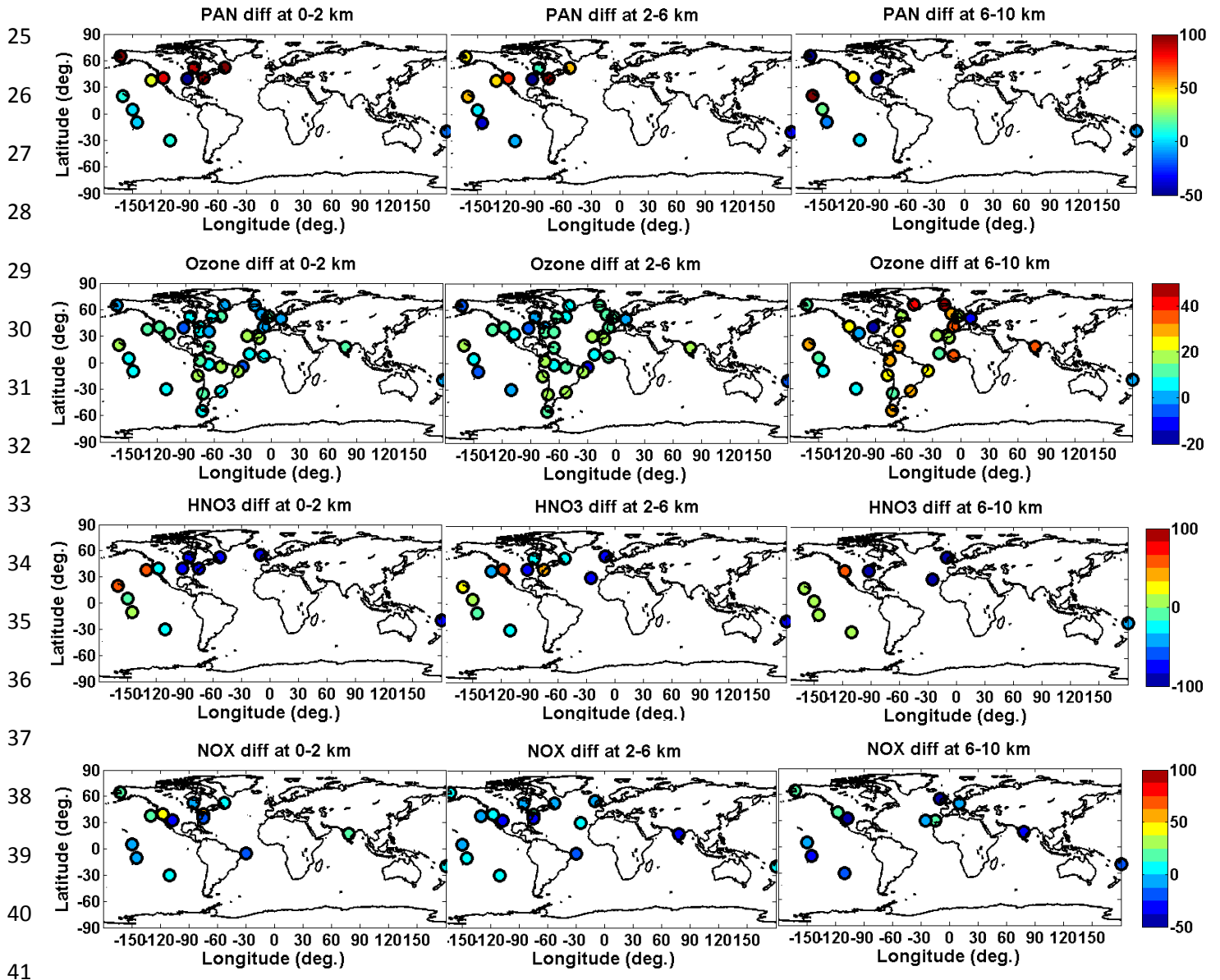
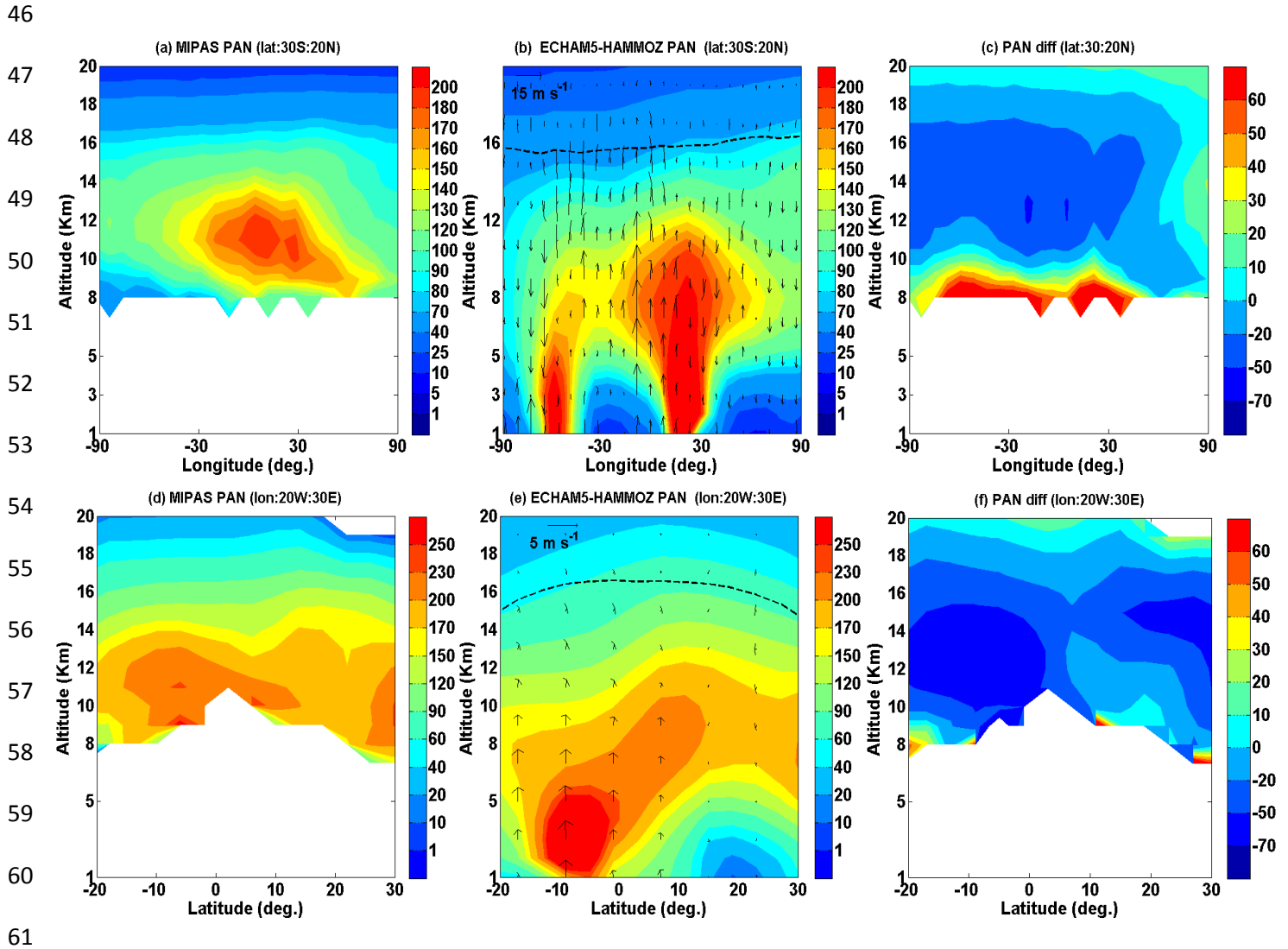


Figure S2: Global distribution of bias (ECHAM5-HAMMOZ – aircraft observations) in PAN (ppt), ozone (ppb), HNO₃ (ppt), NO_x (ppt) for monsoon season and altitude ranges.



62 Figure S3. Longitude –altitude cross-section of PAN (ppt) averaged for monsoon season and
 63 over 30° S - 20° N (a) MIPAS-E climatology (b) ECHAM5-HAMMOZ CTRL simulations
 64 (c) difference in PAN (ppt) (ECHAM5-HAMMOZ-MIPAS). Latitude-altitude cross-section
 65 of PAN (ppt) averaged for monsoon season and over 20° W - 30° E (d) MIPAS-E
 66 climatology (e) ECHAM5-HAMMOZ CTRL simulations (f) difference in PAN (ppt)
 67 (MIPAS-ECHAM5-HAMMOZ).

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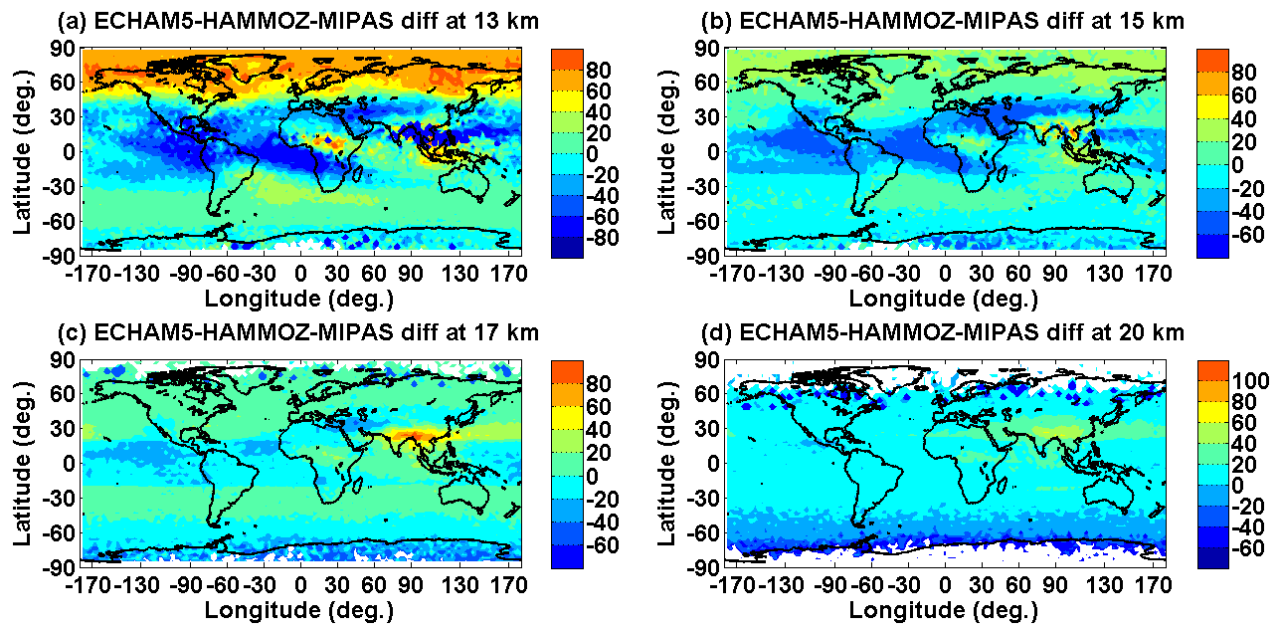
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82 Figure S4: Differences between MIAPS observations (climatology 2002-2011) and ECHAM5-
83 HAMMOZ reference simulation in PAN (ppt) averaged for the monsoon season (a) at 13 km (b)
84 15 km (c) 17 km and (d) 19 km.

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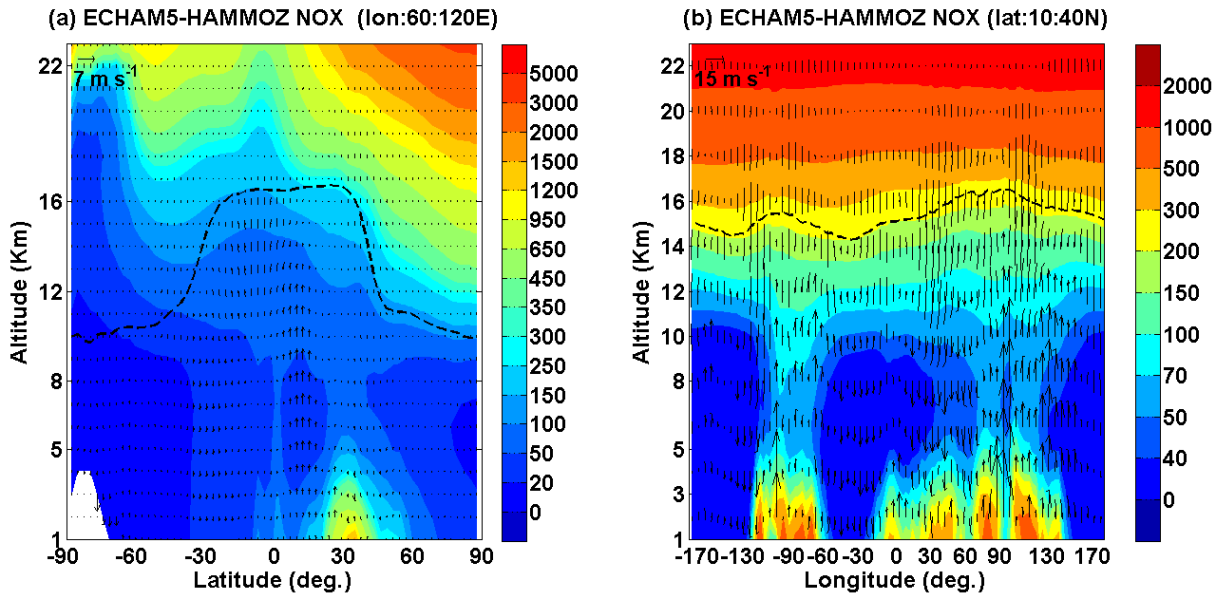


Figure S5. Seasonal mean ECHAM5-HAMMOZ NO_x (ppt) obtained from reference simulation
(a) Latitude -pressure cross section averaged over 60° E - 120° E (b) Longitude-pressure cross
section averaged over 10° N - 40° N. The black arrows indicate wind vectors. The vertical
velocity field has been scaled by 300.