



Dynamical impact of MIPAS ozone assimilation on the NWP ARPEGE meteorological fields

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Relation between ozone and meteorological features was established since begin of 20th century: especially at mid and high latitudes, and in winter, ozone shows a large variability which is mainly caused by transport. Due to its relative long photochemical lifetime in UTLS, ozone is also a good tracer of the flow in this atmospheric layer. So, the time evolution of ozone contains information on the wind field that transports it.

Peuch et al. [2000] used these ozone characteristics to investigate the benefit of simulated TOVS total column in ARPEGE numerical weather prediction model. The results of their OSSEs confirmed the potential interest of ozone assimilation provided that ozone measurements are of high quality and with high vertical resolution.

The study related here rely on these conclusions, but the question is now: What is the impact of real ozone data assimilation?

We use the NWP ARPEGE model coupled with the CTM MOCAGE. MOCAGE ozone 3D fields are inputs for ARPEGE, and in turn ARPEGE meteorological fields provided MOCAGE. MIPAS ozone profiles are assimilated with the 4D-VAR technique implemented in ARPEGE.

We present here preliminary results on the ARPEGE wind increments generated by ozone profiles assimilation.