



Comparison of multiple atmospheric chemistry schemes in C-IFS

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As part of the MACCII -project (EU-FP7) ECMWF's integrated forecast system (IFS) is being extended by modules for chemistry, deposition and emission of reactive gases. This integration of the chemistry complements the integration of aerosol processes in IFS (Composition-IFS). C-IFS provides global forecasts and analysis of atmospheric composition. Its main motivation is to utilize the IFS for the assimilation of satellite observation of atmospheric composition. Furthermore, the integration of chemistry packages directly into IFS will achieve better consistency in terms of the treatment of physical processes and has the potential for simulating interactions between atmospheric composition and meteorology.

Atmospheric chemistry in C-IFS can be represented by the modified CB05 scheme as implemented in the TM5 model and the RACMOBUS scheme as implemented in the MOCAGE model. An implementation of the scheme of the MOZART 3.5 model is ongoing. We will present the latest progress in the development and application of C-IFS. We will focus on the comparison of the different chemistry schemes in an otherwise identical C-IFS model setup (emissions, meteorology) as well as in their original Chemistry and Transport Model setup.