



Evaluating cloud fraction modelling with satellite observations

S. Metzger (1), **R. Lang** (2)

(1) Max Planck Institute for Chemistry, Department of Atmospheric Chemistry, Mainz, Germany (metzger@mpch-mainz.mpg.de)

(2) EUMETSAT, Darmstadt, Germany (Ruediger.Lang@eumetsat.int)

We apply the new concept of Metzger and Lelieveld (ACP, 2007) to model the cloud cover / cloud fractions (CFR) in a regional weather forecast model (COSMO-DE) and a global chemical-climate model (ECHAM5/MESSy). In contrast to the empirical approaches that are currently applied, the CFR is calculated here for the first time consistently from the total of aerosol water, cloud water/ice and precipitation. Various model simulations are evaluated against satellite and ground based observations. First results of the comparison indicate that this new approach improves indeed CFR calculations.

Metzger, S. and J. Lelieveld, Reformulating atmospheric aerosol thermodynamics and hygroscopic growth into fog, haze and clouds, *Atmos. Chem. Phys.*, 7, 3163-3193, <http://www.atmos-chem-phys.net/7/3163/2007/acp-7-3163-2007.html>, 2007.