



## **Cloud microphysics from CloudSat/CALIPSO to EarthCARE**

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Doppler capability of cloud profiling radar (CPR) and high spectral resolution lidar (ATLID) on EarthCARE satellites are expected to improve our understanding of cloud processes. We discuss possible extension of the algorithms for cloud detection, cloud particle phase and cloud microphysics applied to CloudSat-CALIPSO when EarthCARE satellite will be launched. We report on the global analyses of cloud fraction, ice/water fraction and ice/water microphysics by using CloudSat and CALIPSO.

Evaluation of the CloudSat-CALIPSO and EarthCARE algorithms and products is planned by using collocated 94GHz Doppler radar, multi-wavelength high spectral resolution lidar, multiple field of view multiple scattering polarization lidar and Doppler lidar in Koganei, Japan. Mass flux of clouds and vertical air motion expected from EarthCARE will enhance our capability to evaluate/improve cloud parameterization schemes and cloud feedbacks.