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Climatology of PARASOL Cloud Properties

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Since December 2004, the CNES Parasol (Polarization and Anisotropy of Reflectances for Atmospheric Science coupled with Observations from a Lidar) mission is flying in the A-train constellation with Aqua and Aura (NASA), further completed in 2006 by Calipso (NASA/CNES) and CloudSat (NASA/CSA).
More than 7 years of data have been routinely acquired and processed by the Polder-Parasol ground segment (CNES) and by ICARE data Center in Lille, France.

Parasol unique spectral, directional and polarization capabilities give powerful constraints to the cloud retrieval scheme. They allow derivation of classical cloud properties (amount, optical depth, altitude or pressure, albedo) with state of the art performance but also provide original information (thermodynamic phase, angular variability of properties, heterogeneity parameter, etc).
Climatology of cloud parameters demonstrating the value of Parasol cloud products for cloud monitoring or climate research will be shown. Extensive comparison of PARASOL and MODIS products has been performed. The lessons learned from this exercise allow to show the limit and the benefit from the synergy between sensors.