



## **Cirrus Cloud Particle Size Distributions in the tropical Troposphere**

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Cirrus particle size distributions were measured in the tropical troposphere using a Forward Scattering Spectrometer Probe (FSSP-100) and a Cloud Imaging Probe (CIP) on the Russian high altitude research aircraft M-55 Geophysica at altitudes between 10 and 20 km. Measurements were performed during three field campaigns in tropical regions: TROCCINOX-2 (Aracatuba, Brazil, February/March 2005), SCOUT-O3 (Darwin, Australia, November/December 2005) and AMMA (Ouagadougou, Burkina Faso, August 2006). Cirrus clouds were observed at altitudes up to 17.5 km, just below the tropical tropopause. By combining the data of the FSSP and the CIP instruments, the cirrus cloud particle size distributions ranging from 2  $\mu\text{m}$  to 1.5 mm diameter could be determined. Moreover, information about the shape of the larger particles ( $> 100\mu\text{m}$  diameter) was obtained. Together with the data from the COndensation Particle counter System (COPAS) complete size distributions inside tropical opaque and subvisible cirrus, as well as anvil cirrus could be estimated. Comparisons will be made with cirrus size distribution measurements in the midlatitude upper troposphere. These measurements were performed during the CIRRUS II and III campaigns from Hohn, Germany in November 2004 and 2006, respectively, utilizing a Learjet 35 A aircraft up to 12 km altitude.