New Miniature Instrumentation for Measurements in Polar Mixed-Phase Clouds using UAV's and Tethered Balloons

SPEC inc Cloud Physics and Instrumentation

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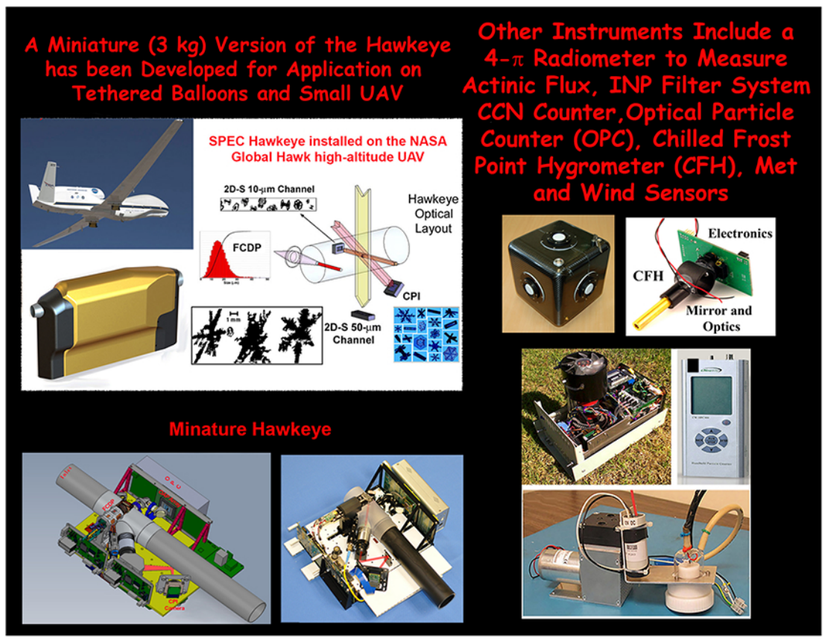
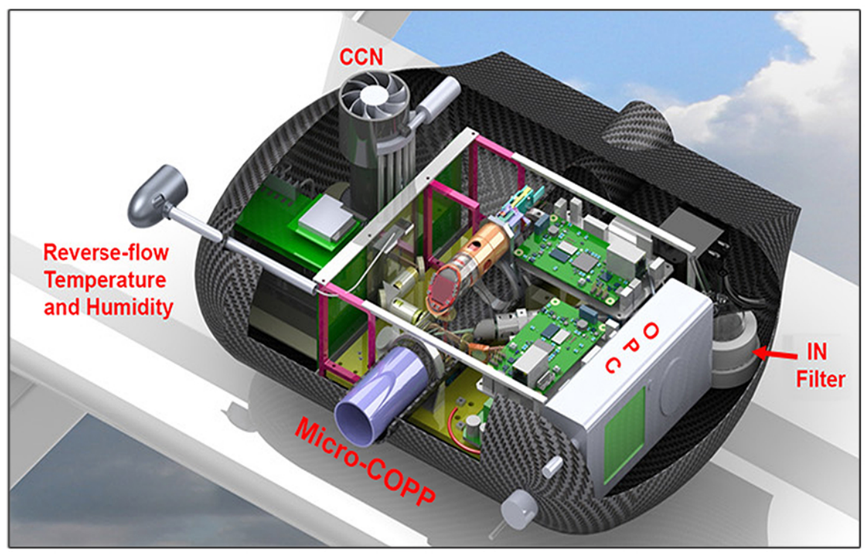
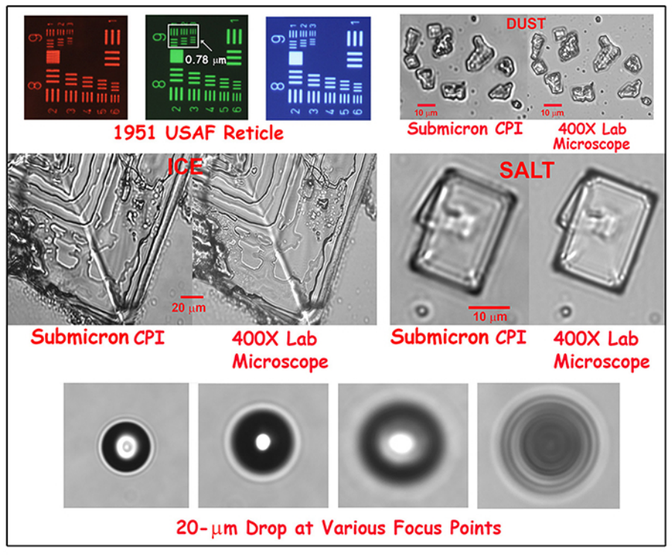


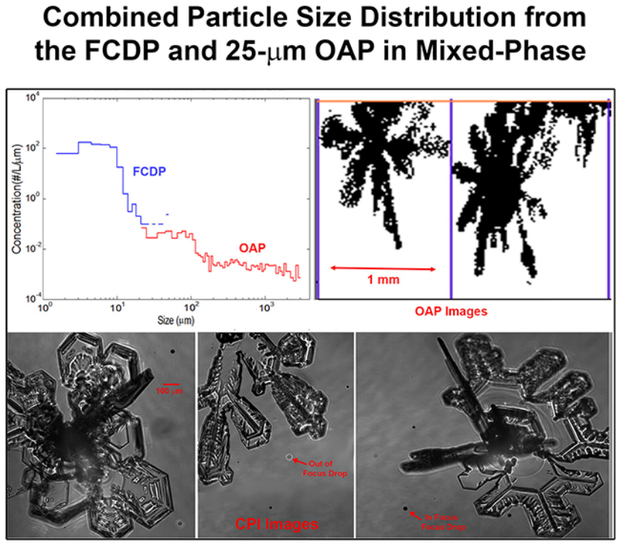
Components of UAV Instrument Package



New High-Resolution 0.7-μm Imaging System for the Micro-COPP CPI

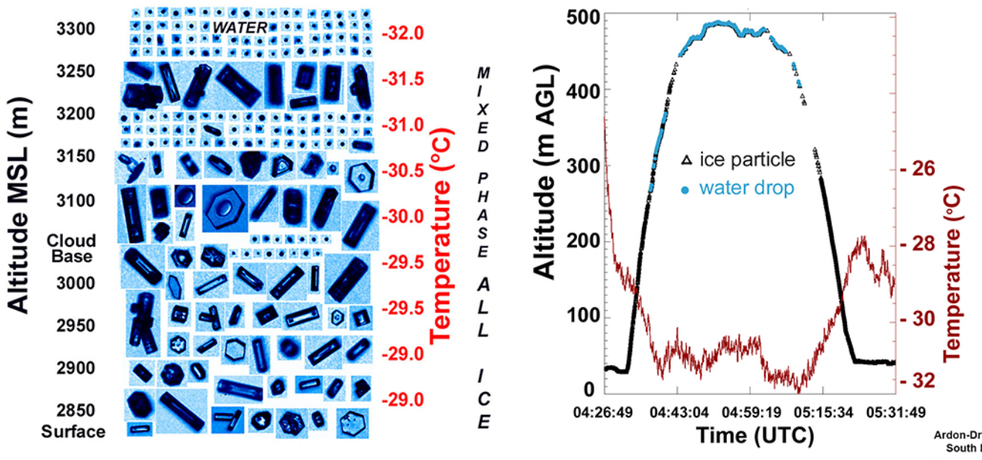


Tethered Balloon System Micro-COPP Images of Ice Particles and Combined Particle Size Distribution from the FCDP and 25-μm OAP in Mixed-Phase

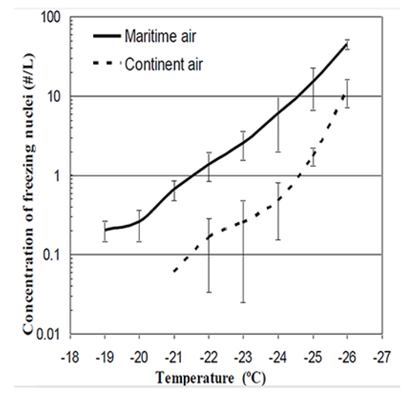


SPEC will Stage a Pilot Field Project to Measure Aerosol, Microphysics and Radiative Properties of Mixed-Phase Arctic Stratus Clouds using the Tethered Balloon and UAV Systems in the Spring of 2018

Tethered Balloon Microphysical Measurements in Mixed-Phase Cloud at the South Pole in February 2009 (Lawson et al. 2010)



Ice Nuclei Measurements at the South Pole (Ardon-Dryer 2011)



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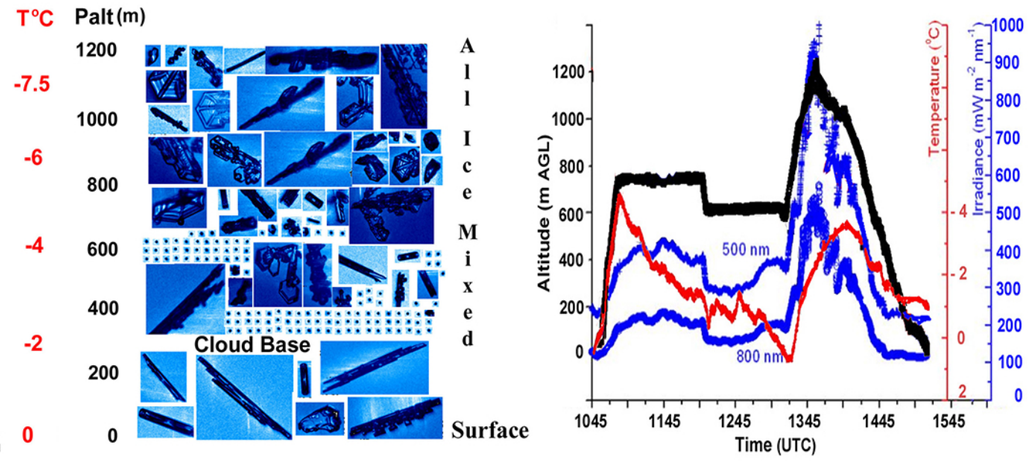
Ardon-Dryer, K., Z. Levin and R. P. Lawson, 2011: Characteristics of Immersion Freezing Nuclei at the South Pole Station in Antarctica, Atmos. Chem. Phys., 11, 4015 - 4024, doi:10.5194/acp-11-4015-2011

Lawson, R. P., K. Stamnes, J. Stamnes, P. Zmarzly, J. Koskuliks, C. Roden, Q. Mo, M. Carrithers, 2011: Deployment of a Tethered Balloon System for Cloud Microphysics and Radiative Measurements at Ny-Ålesund and South Pole, J. Atmos. Oceanic Technol. 28, 656-670.

Sikand, M., J. Koskulics, K. Stamnes, B. Hamre, J. J. Stamnes, and R. P. Lawson, 2010: Optical properties of mixed phase boundary layer clouds observed from a tethered balloon platform in the Arctic, J. Quant. Spectrosc. Radiat. Transfer, 111, 1921 - 1930.

Tethered Balloon Microphysical and Radiative Measurements in Mixed-Phase Cloud at Ny-Alesund (Svalbard) in May 2008 (Sikand et al. 2010)



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