Instruments on the Twin Otter

Available Measurement	Instrument	PI or Group
Total aerosol number concentration	Condensation Particle Counters (CPC) Up to 3	CIRPAS
Aerosol/cloud size distribution d=0.1 - 2.5 µm d=0.8 - 80 µm	Passive Cavity Aerosol Spectrometer Probe (PCASP) Cloud Aerosol and Precipitation Spectrometer (CAPS)	CIRPAS
Aerosol/cloud size distribution d=2.5 – 50 µm	Forward Scattering Spectrometer Probe (FSSP)	CIRPAS
Cloud liquid water content	Gerber PVM Johnson probe on CAPS	CIRPAS
Aircraft state parameters: Position Airspeed Pressure altitude Attitude (pitch, roll, yaw)	Various instruments (with redundancy)	CIRPAS
Meteorological state parameters: Dry-bulb temperature Dew point temperature Pot. T, Equiv. Pot T Pressure Horizontal wind vector Updraft velocities Surface Temp	Various instruments (with redundancy) Gust probe Heiman KT18.95	CIRPAS
Aerosol scattering	TSI Nephelometer (450, 550, 700 nm) dry	CIRPAS+Ogren (NOAA)
Aerosol absorption	Soot Photometer (PSAP, 467, 530, 660 nm) dry	CIRPAS+Ogren (NOAA)
Cloud condensation nuclei concentration	CCN instrument	Collins (Texas A&M)
Aerosol size distribution and hygroscopicity	Tandem Differential Mobility Analyzer (TDMA)	Collins (Texas A&M)
Cloud drop size distribution d = 4 to 200 mm	Phase-Doppler Interferometer (PDI)	Chuang (UC Santa Cruz)
CO2, CO, CH4, N2O, H, SF6, 13C (in CO2) and 18O (in CO2) Radon	(1) 12-flask sampler (2) continuous CO2 (3) tedlar bag sampler for Radon analysis	Torn/Fischer (LBL)
CO, CH4, N2O (all continuous)	Argus	Lopez (NASA ARC/BAERI)