DC3 potential intercomparisons
26 January 2012

= 3 platforms
=2 platforms

Intercomparable species	GV		DC-8		Falcon	
			Ozone			
O3	FO3	O3	CSD CL DIAL HSRL	O3 O3 profiles	UV Absorption	O3
			Reactive Nitrogen			
NO,NO2	CL NOx	NO2	CSD CL TD-LIF	NO2 NO2		
	CL NOx	NO	CSD CL	NO	CL	NO
HNO3	GT-CIMS	HNO3	SAGA CIT-CIMS	HNO3 HNO3	CIMS	HNO3
NOy			CSD CL	NOy	CL	NOy
PAN			GT-CIMS	PANs	CIMS	PANs
			TD-LIF	ΣANs, ΣPNs		
	GT-CIMS	HNO4	CIT-CIMS	HNO4		
			Carbon			
HCHO	CAMS	HCHO	DFGAS ISAF	HCHO HCHO		
CH3CHO	TOGA	CH3CHO	PTR-MS	CH3CHO		
CO	UV Fluorescence	CO	DACOM	CO	UV Fluorescence	CO
CO2	PICARRO	CO2	AVOCET	CO2	PICARRO	CO2
CH4	PICARRO	CH4	DACOM	CH4	PICARRO	CH4
CH3CN	TOGA	CH3CN	PTR-MS	CH3CN		
			CIT-CIMS	organic acids (Table 2)		
			CIT-CIMS	selected OVOCs (Table 2)		
			CIT-CIMS	isoprene hydroxynitrates, hydroxyperoxides, dihydroxyepoxides		
VOCs, OVOCs, CFCs, etc (Table 2)	TOGA	VOCs, OVOCs, CFCs	WAS PTR-MS	Hydro and halo carbons Fast OVOC and NMHC	canisters	VOCs, halocarbons
			HOx and Peroxides			
Peroxides	P-CIMS	Peroxides	CIT-CIMS	Peroxides		
			ATHOS	OH, HO2		
			Radiation			
Spectral Irradiance	HARP	Irradiance	SSFR	Solar and near IR Irradiance		
Actinic Flux	HARP	Actinic Flux	CAFS	Actinic flux	Filter Radiometer	J(NO2)
Broadband Irradiance	RAF-Irradiance	broadband UV, shortwave, IR	BBR	Broadband solar and IR		
			Water			
H_2O vapor	VCSEL RAF-EDPC	water vapor water vapor	DLH	Water vapor		
Dew/Frost point	RAF-DPX	Dew/Front Point temperature	X	Dew/Front Point temperature		
	CU Total Water	total water				
	RAF-LWC	Liquid water content				
			Other			
SO2	GT-CIMS	SO2	GT-CIMS	SO2	CIMS	SO2
	GT-CIMS	HCl				
			CIT-CIMS	HCN		
			DACOM	N2O		
			CIT-CIMS	organic acids		
					absorption tubes	PFC tracer
			Cloud Droplet & Particle Size			
Particle Number	CN	particle number, >10nm	CN	particle number, >10nm	3 x CPC	particle number, >5nm
			CN	particle number, >10nm, heated	3 x CPC	particle number, >10 nm, non-volatile
			CN	particle number, >3nm		
Particle Size	SMPS	particle size distribution, 10-500nm	SMPS	particle size distribution, 10-300nm		
			SPEC	Aerosol parameters		
Particle Size	UHSAS	particle size distribution, 60-1000nm	UHSAS	particle size distribution, 60-1000nm	UHSAS-A	particle size distribution 70-1000nm
			UHSAS	particle size distribution, dry and humidified		
					PCASP-100X	particle size distribution 140-1000nm
			LAS	particle size distribution, 0.1-5 um		
			APS	particle size distribution, 0.5-5um		
			DASH-SP	f(RH)		
			02. Apr	clouds & precipitation		
	3V-CPI	cloud particle imaging				
	2D-C	cloud particle imaging				
Cloud Particle Size	CDP	cloud droplet size distribution	FCDP	cloud droplet size distribution	FSSP-300	size distribution 0.4-20um
					2 x Grimm OPC 1.29	size distribution 0.25-2um (total/non-volatile)
			Particle Composition and Optical Properties			
			PALMS	Single particle composition		
			AMS	Aerosol mass spectra		
			AATS-14	Aerosol Optical Depth		
			Anderson-Neph	Aerosol scattering (Total, submicron), f(RH) @450, 550, 700 nm		
			Anderson-PSAP	Aerosol absorption (Total, nonvolatile) @467, 530, 660 nm		

			Brock-Filter	Total absoption @467, 530, 660 nm		
			Brock-Photoacoustic	Total (@405, 532, 660 nm), RH @ 532 (dry, 85% RH), λ dependence, BC-clear coatings (@532), BC-brown coatings (@405 nm)		
			Brock-CRD	aerosol extinction (dry @405, 532, 660 nm; wet @75%, 95% RH, λ dependence, gas-phase @405, 532, 660 nm)		
			PI-Neph	polarized phase function		
			DIAL-HSRL	aerosol backsctter profiles		
			DIAL-HSRL	depolarization profiles		
			DIAL-HSRL	aerosol extinction profiles		
			CCN	CCN number		
			Dibb-filters	bulk inorganic ions (Table 3)		
			Dibb-filters (+Weber)	organic compounds (Table 3)		
			Dibb-mist chamber	fine sulfate		
					3-lambda-PSAP	absorption coefficient
			LARGE	Aerosol measurements - includes Martin Polar Neph		
Black Carbon			HD-SP2	Black carbon aerosol, dry & wet	SP2	black carbon
			Meteorology			
Winds	RAF-WINDS	wind direction & speed	MMS	wind direction & speed	X	wind direction & speed
Temperature	RAF-ATX	temperature	MMS	temperature	X	temperature
Pressure	RAF-PSXC	corrected static pressure	MMS	corrected static pressure	X	corrected static pressure
37	32		67		23	