

Aerosol/Cloud/Radiation Related Measurements for May 2003 Aerosol IOP as of January 3, 2003

	Measurement	Instrument	PI/team	Surface	Air
1	Aerosol absorption (532 nm)	Photoacoustic	Arnott (DRI)	TBD	TO
2	Aerosol absorption (450, 550, 700 nm)	Modified aethalometer	Ogren (CMDL)	AT	
3	Aerosol absorption (565 nm)	PSAP	Ogren (CMDL) (ARM AOS)	AT	
4	Aerosol absorption (565 nm)	PSAP	Ogren (CMDL) (ARM IAP)		IAP
5	Aerosol absorption (466, 530, 660 nm)	Modified PSAP	Covert/Alquist (UW)	TBD	TO
6	Aerosol scattering and hemispheric backward scattering (450, 550, 700 nm, D _p < 1 ? m and D _p < 10 ? m, all at both low and varying RH)	TSI 3563 integrating nephelometers, scanning humidograph system	Ogren (CMDL) (ARM AOS)	AT	
7	Aerosol scattering and hemispheric backward scattering (450, 550, 700 nm, D _p < 1 ? m) low RH and aerosol scattering (550 nm) at RH=85%)	TSI 3563 integrating nephelometers, scanning humidograph system	Ogren (CMDL) (ARM IAP)		IAP
8	Aerosol scattering and hemispheric backward scattering (450, 550, 700 nm)	TSI 3563 integrating nephelometers	Covert/Elleman (UW)		TO
9	Aerosol hygroscopic scattering (RH=30, 60, 85%) (550 nm)	Humidified Nephelometer, humidigraph	Covert/Elleman (UW)		TO
10	Aerosol scattering (532 nm)	nephelometer	Arnott/DRI	TBD	
11	Aerosol extinction (532 nm)	Cavity Ringdown (CRD)	Arnott/DRI	TBD	
12	Aerosol extinction (700 nm)	Cavity Ringdown (CRD)	Strawa (NASA/Ames)		TO
13	Aerosol extinction (466, 530, 660 nm)	Optical extinction cell	Covert/Alquist (UW)	TBD	
14	Aerosol Size Distribution 0.3-2.5 ? m	PCASP (0.1-2.5 ? m) >0.3 ? m (CAPS)	CIRPAS		TO
15	Aerosol Size Distribution >0.5 ? m	TSI aerodynamic particle sizer	CIRPAS		TO
16	Aerosol Size Distribution (20 - 500 nm)	SMPS	Hudson (DRI)	TBD	
17	Aerosol size distribution (0.1–10 ? m)	PCASP	Ogren (CMDL) (ARM AOS)	AT	
18	Aerosol size distribution 10 nm- 1 ? m at 2 RH	TDMA	Rissman/Seinfeld (Cal Tech)		TO
19	Total particle number (>0.01 ? m)	TSI 3010 CPC	Ogren (CMDL) (ARM AOS)	AT	
20	Aerosol optical thickness, extinction profiles	Airborne AATS-14 Sun photometer	Schmid (NASA Ames)		TO

21	Aerosol optical thickness (6 wavelengths, sky radiance) derive Angstrom exponent, SSA, aerosol size distribution, refractive index	Cimel Sun and sky photometer	ARM SGP and AERONET	X	
22	Aerosol optical thickness (5 wavelengths), direct/diffuse ratio, Angstrom exponent	MFRSR	ARM SGP	X	
23	Direct, diffuse spectral irradiance, AOT	RSS	ARM SGP	X	
24	Aerosol optical thickness (355 nm), aerosol extinction, backscatter, water vapor mixing ratio, relative humidity profiles	Raman lidar	ARM SGP	X	
25	Aerosol backscatter profiles (523 nm)	MPL	ARM SGP and Tsay/Ji (NASA/GFSC)	X	
26	Aerosol backscatter profiles (523 nm)	MPL	Tsay/Ji (NASA/GFSC)	X	
27	Aerosol chemistry	MOUDI	Hegg (UW)		TO
28	Aerosol major ion chemistry	Aerosol filters, IC	Quinn (PMEL)	AT	
29	TC/OC/EC	Aerosol filters	Kirchstetter (LBL)	TBD	
29a	Light transmission (350-1000 nm)	Light spectrometer	Kirchstetter (LBL)	TBD	
30	Aerosol chemistry	PILS sampler-Ion Chromatog.	Lee (BNL)	TBD	
31	Total organic carbon	PILS sampler-UV oxidation	Lee (BNL)	TBD	
32	Aerosol mass	TEOM	Lee (BNL)	TBD	
33	Refractive index, hygroscopicity	TDMA, OPC	Wang (BNL)	TBD	
34	?? Individual particle chemistry, sizing	Aerodyne AMS	Worsnop (Aerodyne)	TBD	
35	?? Size-segregated aerosol composition	Drum sampler, PIXE	Cahill (UCD)	TBD	
36	Aerosol optical thickness (0.3-2.5 ?m), sky radiance, polarization (870 nm), BRDF	Sun-sky-surface sensor	Tsay (NASA/GSFC)	X	
37	Broadband irradiance	Broadband cavity radiometer	ARM SGP	X	
38	Broadband irradiance	PSP/CM21, NIP/CH1, PIR/CG4, NILU-UV	Tsay/Ji (NASA GSFC)	X	
39	UV Diffuse/direct radiance (300-360 nm)	UVRSS	Slusser (CSU)	X	
40	Direct/diffuse irradiance (360-1060 nm)	RSS	Michalsky (SUNY-Albany)		
41	Ozone concentration (surface)	Dasibi ozone monitor	Ogren (CMDL) (ARM AOS)	AT	
42	Ozone column	UV-MFRSR and UV-RSS	Slusser (CSU)	X	
43	Upwelling and downwell SW spectral irradiance/radiance, surface albedo 300-2500 nm	Solar Spectral Flux Radiometers (SSFR)	Pilewskie (NASA Ames)		TO
44	reflectance, radiance or irradiance spectra (350-2500 nm)	SWS (Shortwave Spectroradiometer),	Pilewskie (NASA Ames) Tsay/Ji (NASA GFSC)	X	

		ASD Solar spectrometer			
45	Downwelling spectral irradiance (3-20 ?m)	AERI	ARM SGP	X	
46	Downwelling spectral irradiance (3-20 ?m)	AERI	Tsay/Ji (NASA/GSFC)	X	
47	Total upward and downward fluxes	Kipp and Zonen CM-22 pyranometers, CG-4 pyrgeometers	A. Bucholtz (NRL)		TO
48	CCN	CCN spectrometer	Hudson (DRI)	X	
49	CCN	CCN spectrometer	Rissman/Seinfeld (Cal Tech)	X	TO
50	Aerosol/Cloud Drop Size Distribution 0.5-50 ? m	CAPS, FSSP	CIRPAS		TO
51	Cloud liquid water	Johnson probe in CAPS	CIRPAS		TO
52	Cloud liquid water	Gerber PVM probe	CIRPAS		TO
53	Meteorological state	Standard instruments	CIRPAS		TO, IAP

AT = Aerosol Trailer

IAP = In Situ Aerosol Profiling Aircraft (Cessna)

TBD = to be determined

TO = CIRPAS Twin Otter