POST

CIRPAS DATA (Haf and Roy)

- What we have
- Where we stand on processing
- What we have archived

1. DROP SIZE SPECTRA (No./bin; diameters in um at edges of bins)

1-hz data
UTC mm:dd:hh:mm:ss universal time
FSSP 1 - 50 um diameter (CIRPAS)
PCASP .1 - 3 um (CIRPAS)
CIP 50 - 1550 um (CIRPAS)
CAS 1 - 50 um (CIRPAS)

10-hz data
UTC mm:dd:hh:mm:ss.x universal time
CAS 1 - 50 um (CIRPAS)

2. CIRPAS

1-hz data (Measured quantities)

UTC **mm:dd:hh:mm:ss universal time**
GLAT **Lat (deg) GPS latitude (CIRPAS)**
GLON **Long (deg) GPS longitude (CIRPAS)**
GALT **Nov Atel (m) GPS altitude (CIRPAS)**
GWIE **East Vel (m/s) GPS East aircraft velocity (CIRPAS)**
GWIN **North Vel (m/s) GPS North aircraft velocity (CIRPAS)**
GWIU **Up Vel (m/s) GPS up aircraft velicity (CIRPAS)**
ROLL **Roll (deg) roll of aircraft**
PITCH **Pitch (deg) pitch of aircraft**
THDG **Heading (deg) aircraft heading**
AT **T amb (C) static ambient temperature**
DT **Td amb (C) ambient dew-point temeprature**
PS **Ps (mb) static atmospheric pressure**
SST **SST (C) sea-surface temperature**
LWC1 **LWC-wire (g/m^3) liquid water content (CIRPAS)**
CONC_CAS **CASFWD (#/cc) CAS concentration, 1 - 50 um diameter**
CONC_CIP **CIP (#/cc) CIP concentration, 50 - 1550 um diameter**
VOL_CAS **CASFWD (Vol/cc) CAS volume**
VOL_CIP **CIP (Vol/cc) CIP volume**
CONC_PCASP **PCASP (#/cc) PCASP concentration**
CONC_FSSP **FSSP (#/cc) FSSP concentration**
VOL_PCASP **PCASP (Vol/cc) PCASP volume**
VOL_FSSP **FSSP (Vol/cc) FSSP volume**
CONC_CPCI **CPCI (#/cc) CN concentration > 10 nm**
CONC_UFCPC **UFCPC (#/cc) CN concentration > 3 nm**
RADALT **Rad Alt (m) radar altitude**

2. CIRPAS

1-hz data (calculated quantities)

RHUM **RH amb (%) ambient relative humidity**
WSC **Wind Speed (m/s) horizontal wind speed**
WDC **Wind Dir (deg) wind direction**
WVC **Vert. Wind (m/s) vertical wind velocity**
PALT **P Alt (m) pressure altitude**
TAS **TAS (m/s) true air speed**
THETA **Theta (K) potential temperature**
THETAE **Thetae (K) equivalent potential temperature**
2 ***MRLA1*** **MR-H O (g/Kg) mixing ratio (from dew point, CIRPAS)**
SPHUM **SP Hum (g/Kg) specific humidity (from dew point)**
RHO **Rho-dry (Kg/m^3) ambient density of dry air**

3. CIRPAS

1-hz data (CCN)

CONC_CCN1 CCN concentration (CIRPAS)
SS1 CCN supersaturation (CIRPAS)
CONC_CCN2 CCN concentration (CIRPAS)
SS2 CCN supersaturation (CIRPAS)

4. CIRPAS 10-hz data (Measured quantities)

UTC **mm:dd:hh:mm:ss.x universal time**
GLAT **Lat (deg) GPS latitude (CIRPAS)**
GLON **Long (deg) GPS longitude (CIRPAS)**
GGALT **Nov Atel (m) GPS altitude (CIRPAS)**
GWIE **East Vel (m/s) GPS East aircraft velocity (CIRPAS)**
GWIN **North Vel (m/s) GPS North aircraft velocity (CIRPAS)**
GWIU **Up Vel (m/s) GPS up aircraft velocity (CIRPAS)**
ROLL **Roll (deg) roll of aircraft**
PITCH **Pitch (deg) pitch of aircraft**
THDG **Heading (deg) aircraft heading**
AT **T amb (C) static ambient temperature**
DT **Td amb (C) ambient dew-point temperature**
PS **Ps (mb) static atmospheric pressure**
RADALT **Rad Alt (m) radar altitude**
LWC1 **LWC-wire (g/m^3) liquid water content (CIRPAS)**
CONC_CAS **CASFWD (#/cc) CAS concentration, 1 - 50 um diameter**
CONC_CIP **CIP (#/cc) CIP concentration, 50 - 1550 um diameter**
VOL_CAS **CASFWD (Vol/cc) CAS volume**
VOL_CIP **CIP (Vol/cc) CIP volume**
SST **SST (C) sea-surface temperature**

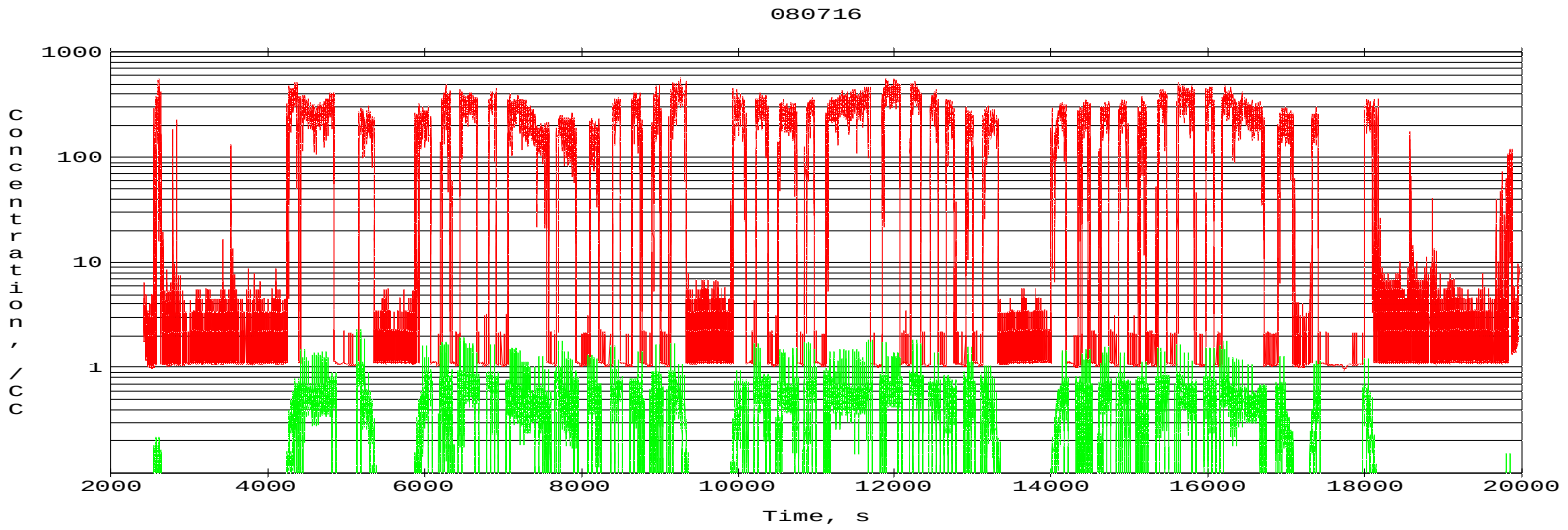
4. CIRPAS 10-hz data (Calculated quantities)

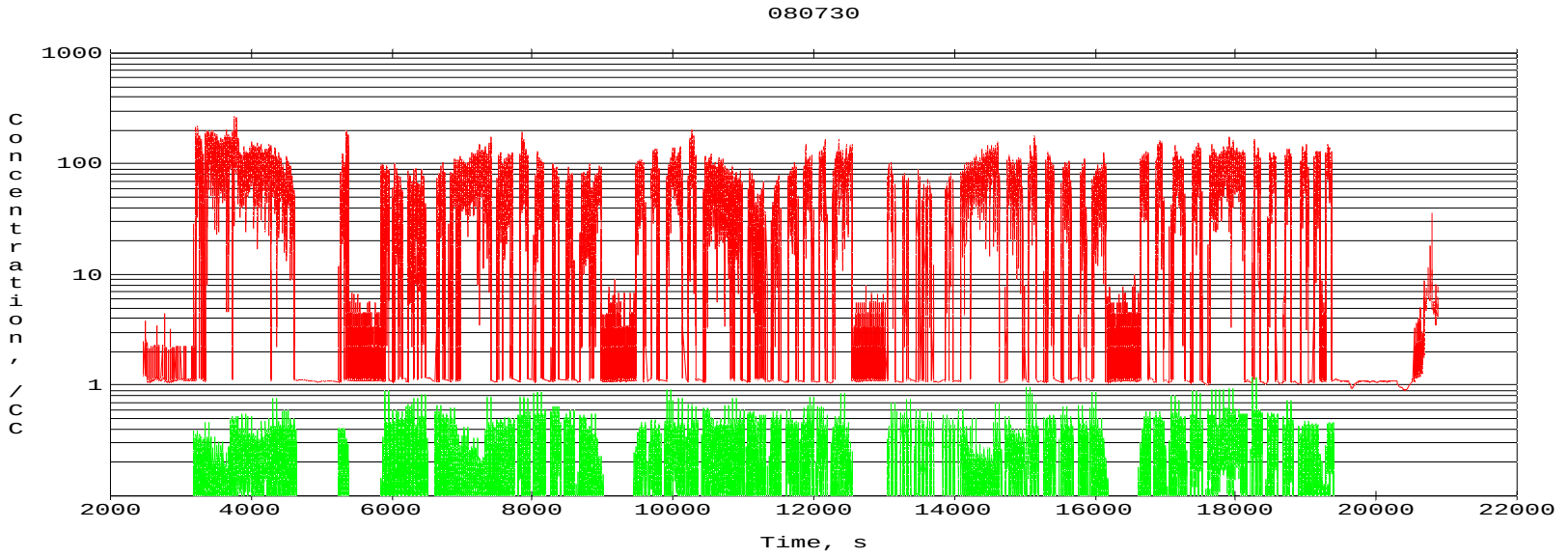
***RHUM* RH amb (%) ambient relative humidity**
***WSC* Wind Speed (m/s) wind speed**
***WDC* Wind Dir (deg) wind direction**
***WVC* Vertical Wind (m/s) vertical wind velocity**
***PALT* P alt (m) pressure altitude**
***TAS* TAS (m/s) true air speed**
***THETA* Theta (K) potential temperature**
***THETAE* Thetae (K) equivalent potential temperature**
2 *MRLA1* MR-h O (g/kg) mixing ratio (from dew point; CIRPAS)
***SPHUM* SP Hum (g/kg) specific humidity (from dew point)**
***RHO* Rho - dry (kg/m^3) ambient density of dry air**
***SYNCH* ? ½ hz GPS synch signal**

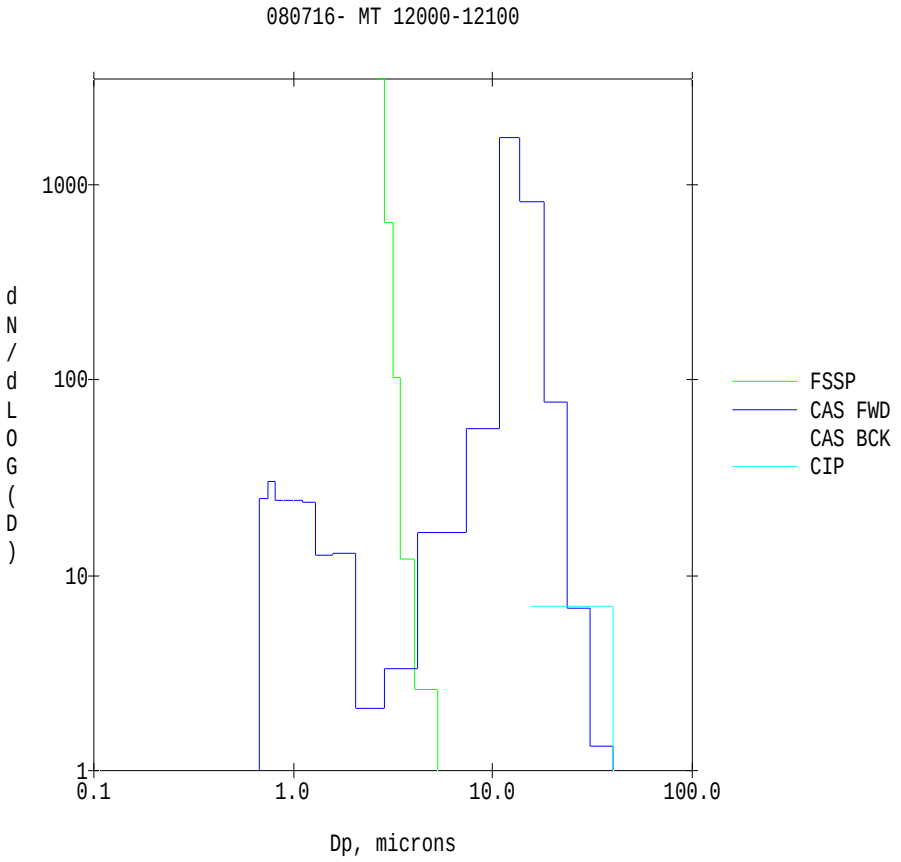
5. CIRPAS 100-hz data

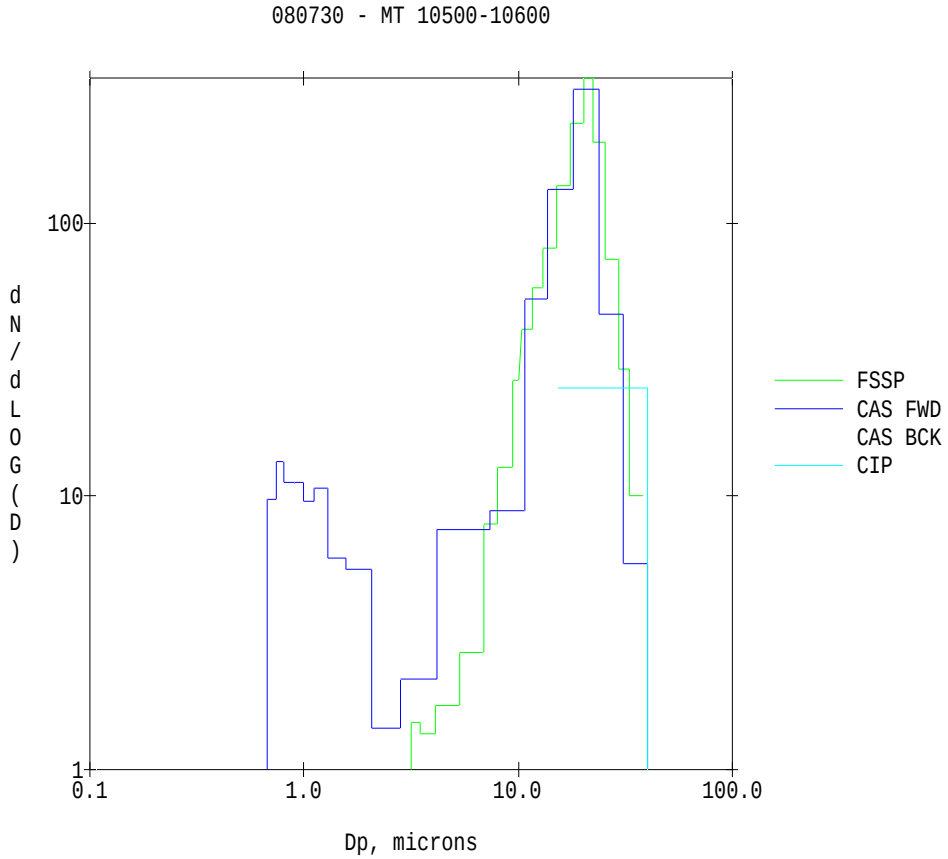
UTC **mm:dd:hh:mm:ss.xx universal time**
AT **T amb (C) static ambient temperature**
PS **Ps (mb) static atmospheric pressure**
SST **SST (C) Sea-surface temperature**
RADALT **Rad Alt (m) radar altitude**
PALT **P alt (m) pressure altitude**
THETA **Theta (K) potential temperature**
THETAE **Thetae (K) equivalent potential temperature**
RHO **Rho - dry (kg/m^3) density of dry air**
LWC1 **LWC - wire (g/m^3) hot-wire liquid water content**
SYNCH **? ½ hz GPS synch signal**

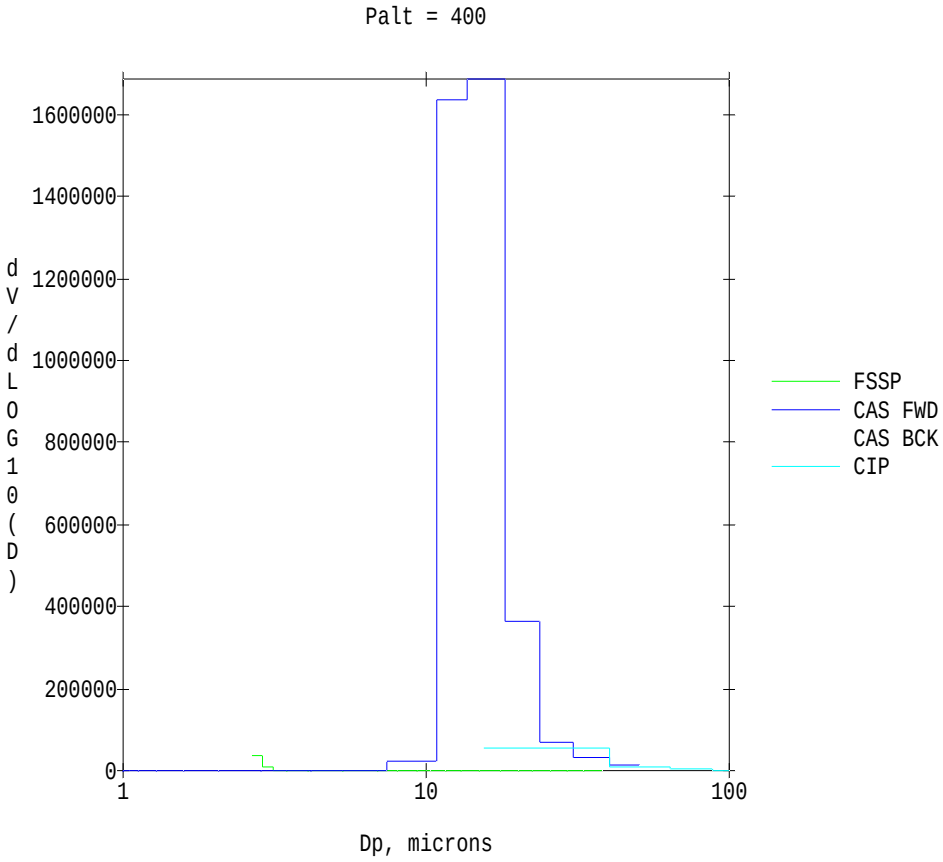
EXAMPLES:

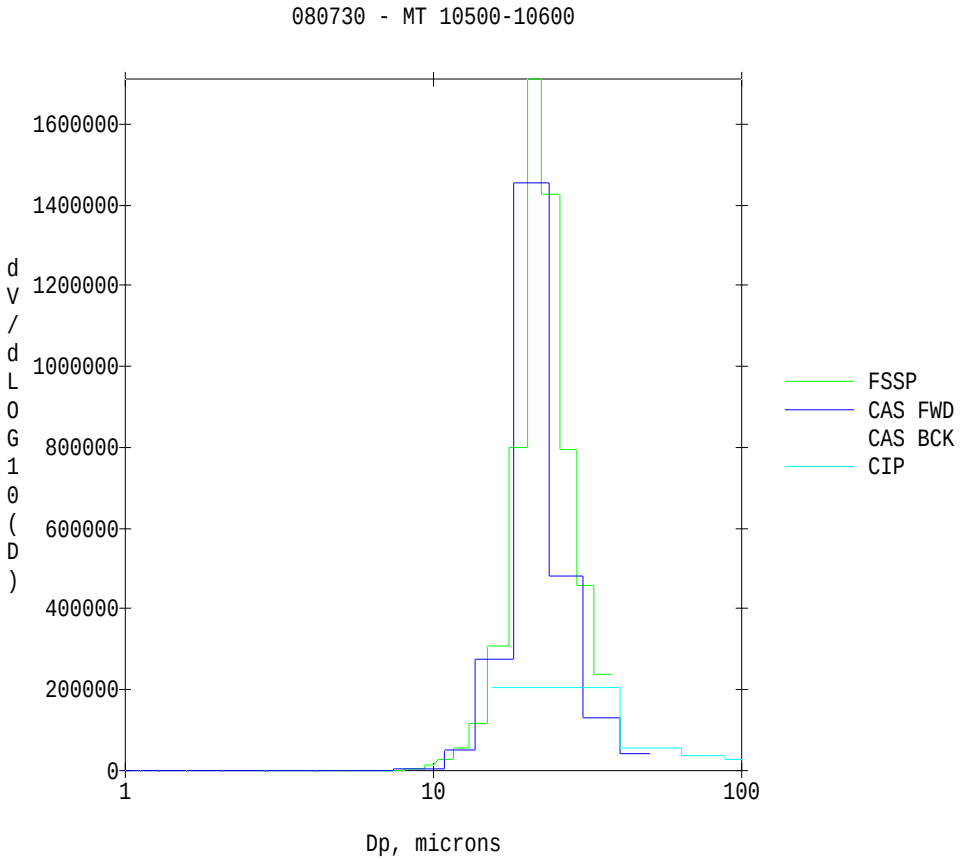

080716
1000
100
10
1
Concentration, /CC
2000
4000
6000
8000
10000
12000
14000
16000
18000
20000
Time, s
num, #/CC
Vol, cc/m^3


080730
1000
100
10
1
Concentration, /CC
2000
4000
6000
8000
10000
12000
14000
16000
18000
20000
22000
Time, s
num, #/CC
vol, cc/m^3


080716- MT 12000-12100
dN/dLOG(D)
1000
100
10
1
0.1
1.0
10.0
100.0
Dp, microns
FSSP
CAS FWD
CAS BCK
CIP


080730 - MT 10500-10600
dN/dLOG(D)
100
10
1
0.1
1.0
10.0
100.0
Dp, microns
FSSP
CAS FWD
CAS BCK
CIP


Palt = 400
dV/dLOG10(D)
1600000
1400000
1200000
1000000
800000
600000
400000
200000
0
1
10
100
Dp, microns
FSSP
CAS FWD
CAS BCK
CIP


080730 - MT 10500-10600
dV/dLOG10(D)
1600000
1400000
1200000
1000000
800000
600000
400000
200000
0
1
10
100
Dp, microns
FSSP
CAS FWD
CAS BCK
CIP