Avoiding public FQDN/IP-addresses in logs

- Use only private IP addresses for local nodes
- Use an alias as the canonical name in */etc/hosts*
  - First field after IP address, put canonical name farther to the right
  - Use only the aliases in control files, SNAP commands
    - Not possible for Fila10G/Core3H configuration
      - Use private IP addresses!
        - Not possible for connection to correlator
  - Simplifies updating IP addresses
    - Except Fila10G/Core3H configuration
  - This is also helpful for *ntpq* – NTP query program
    - Easy to read node name in the small space (16 characters) available

Field System
Status and New Features

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TOG, January 24, 2022, MPIfR Bonn Germany

FS Linux Distributions

- FSL10
  - Current standard
  - Based on Debian *Stretch*
  - Out of support
    - LTS ended June 2022
  - 32- and 64-bit architecture
  - *https://nvi-inc.github.io/fsl10/*
- FSL11
  - Next standard
  - Based on Debian *Bullseye*
    - LTS expected until June 2026
  - 32- and 64-bit support
  - Improved RAID support
  - *gfortran* is stricter
  - *python2* support is weak (no *numpy*)
  - Development is largely complete
    - Expect release in February 2023
  - Requires FS 10.2, which should be available soon

FS *10.1.0* – Current Release

- DBBC3 support was added
- Improved *jive5ab* configuration per data rate
- Local *jive5ab* tuning for ethernet recording
  - `fb_config` and `mk5c_config` local procedures
    - *drudg* adds appropriate call to setup procedures
- `setup_proc` command
  - Limit setup procedure use to mode changes
- *gnplt* no longer puts redundant comments in *.rxg* files
- Other bug fixes and improvements
- Update notes at:
  - *https://nvi-inc.github.io/fs/releases/10/1/10.1.0.html*
- You must install FS *10.0.0* before upgrading

FS *10.2.0* – Next Release

- Expect first Beta release in February 2023
- Support for FSL11
  - FORTRAN typographic changes
    - Handling of hex/octal/binary constants, etc.
  - All *python* scripts are converted to *python3*
    - *python2* versions are still available
- Support up to 16 character experiment names
- Display server shuts down on FS terminate
- *streamlog* utility to stream log and display data
- *plotlog* handles VGOS and DBBC3 log data
- Other bug fixes and improvements
- You must install FS 10.1.0 before upgrading

plotlog – plot log data utility

- Plots many types of ancillary data found in logs:
  - weather, clocks, Tsys, Recorder performance
  - Phase-cal, Cable, CDMS, Receiver
  - More can be added
- Using it is simple, e.g., to plot to X11 display:

```
cd /usr2/log
plotlog vo2230oe.log
```

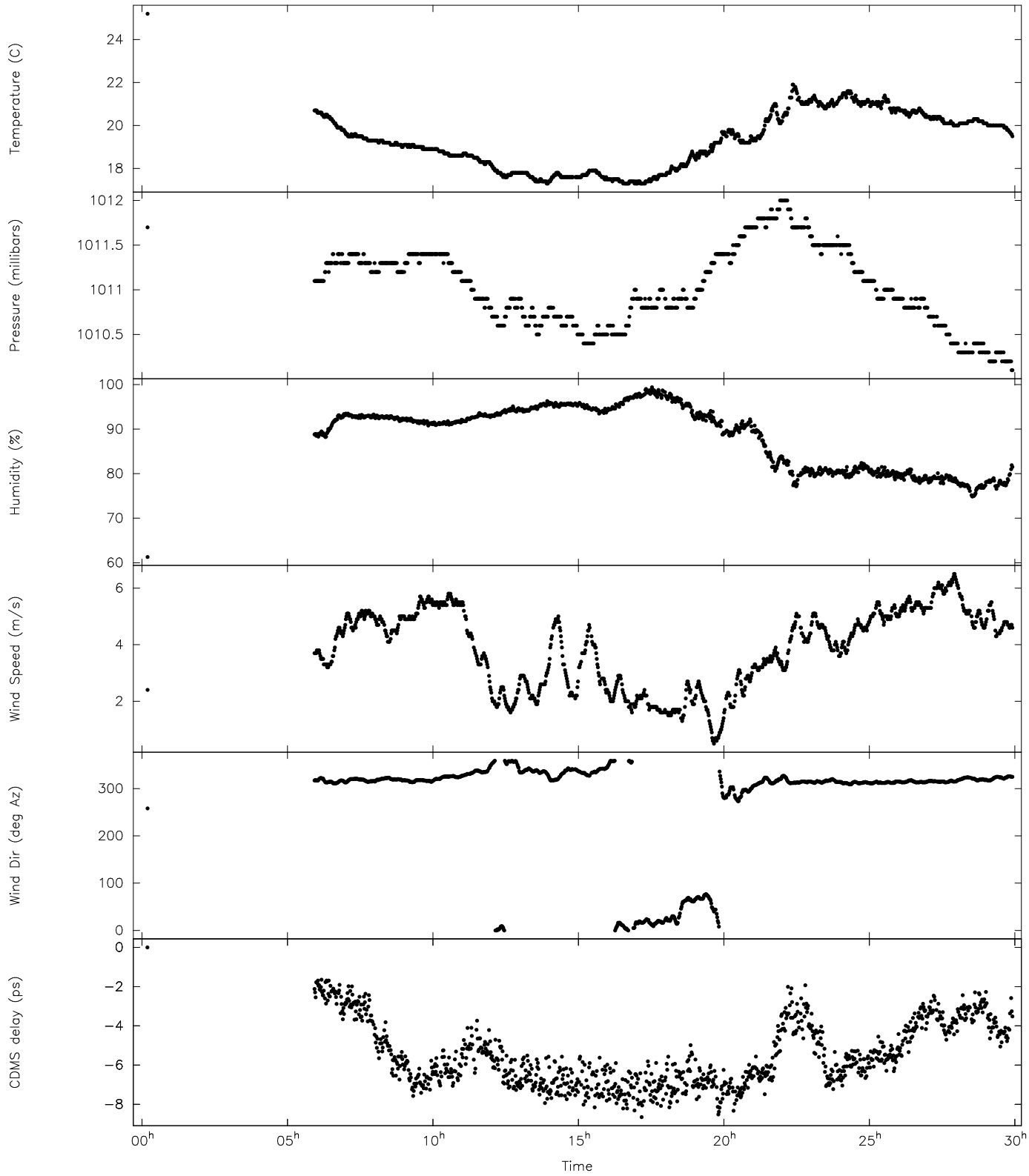
- Command line options available for:
  - File output
  - Selecting which items to include
  - Different slices of:
    - DBBC3/RDBE Tsys
    - RDBE Phase-cal
  - Control scaling of some plots
- Command line options can be placed in script or alias
  - Easy reuse

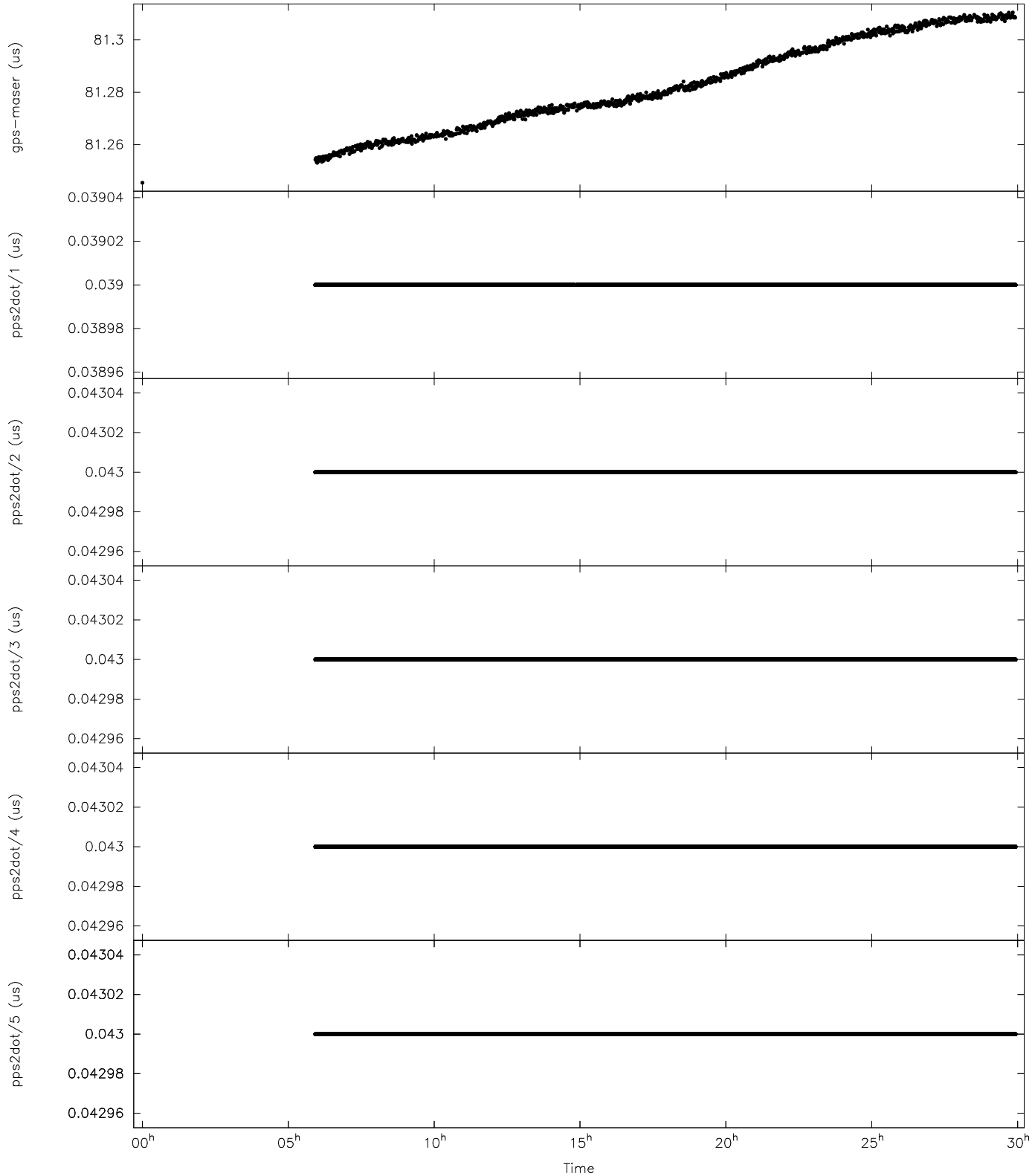
plotlog - improvements in FS *10.2*

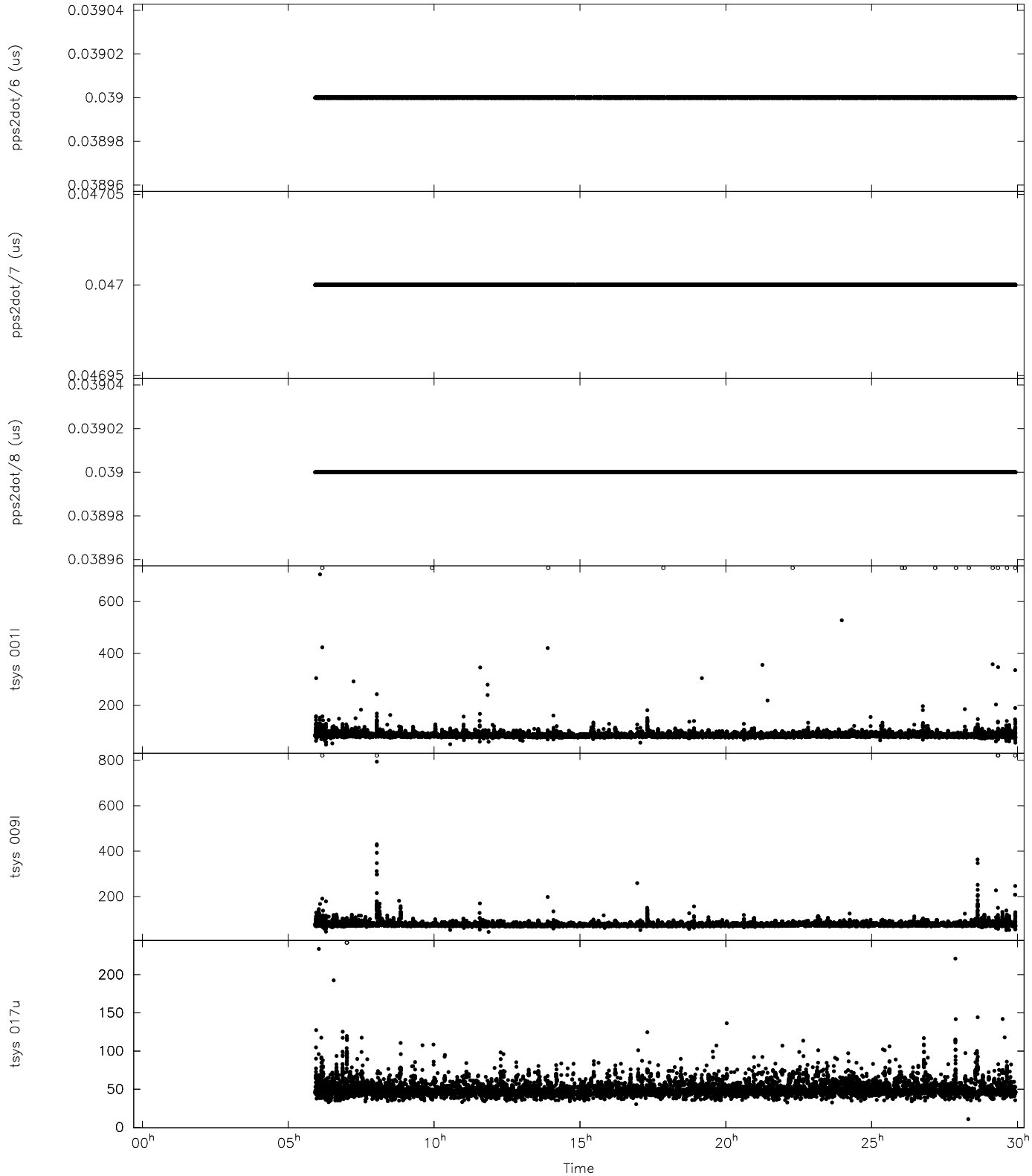
- DBBC3 and RDBE data
- Wind speed and direction
- Expand clock coverage:
  - `maser`, `fmout`, `gps`, `dot2gps`, `dot2pps`, `pps2dot`, `setcl`
  - Multicast and command output for DBBC3, RDBE
- Recorder performance
  - Late start, recording short, missing bytes
- CDMS
- Support *giza* for FSL11
- More command line options to control features
- Other improvements …, see **`plotlog -h`**

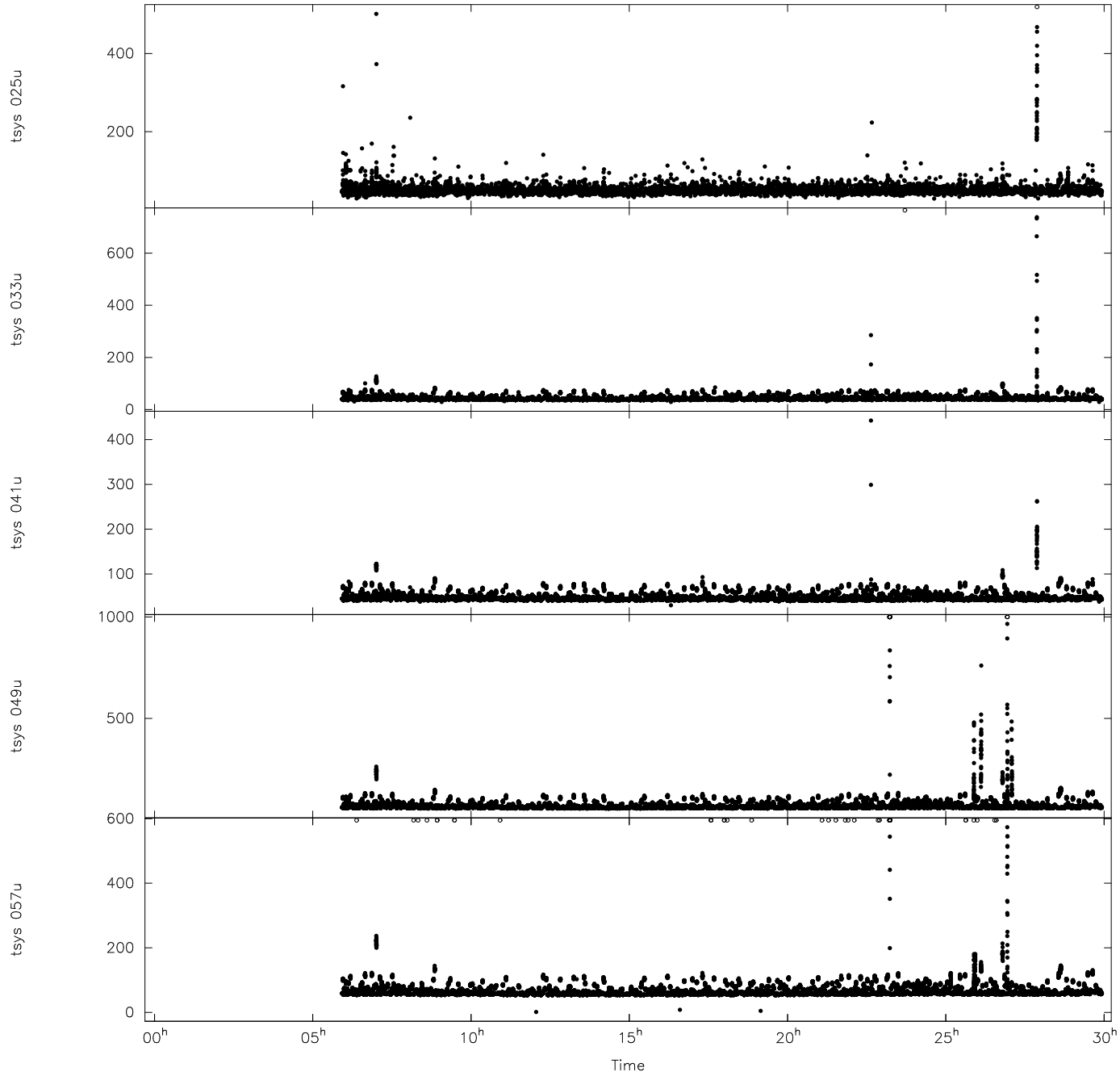
plotlog - possible future improvements

- Hardcoded
  - Late `preob` - schedule is running late
  - `preob` running long
  - Late onsource
  - Onsource time lost in scans
  - Station specific data – contact Ed
  - Limited syntax for user extensions
  - Other suggestions …
- A different option: *logpl*
  - Offers user extensible selections
  - Plot data versus time or versus other data
  - Can be run interactively or from a script


Temperature (C)
24
22
20
18
Pressure (millibars)
1012
1011.5
1011
1010.5
Humidity (%)
100
90
80
70
60
Wind Speed (m/s)
6
4
2
Wind Dir (deg Az)
300
200
100
0
CDMS delay (ps)
0
−2
−4
−6
−8
00h
05h
10h
15h
20h
25h
30h
Time


gps-maser (us)
81.3
81.28
81.26
pps2dot/1 (us)
0.03904
0.03902
0.039
0.03898
0.03896
pps2dot/2 (us)
0.04304
0.04302
0.043
0.04298
0.04296
pps2dot/3 (us)
0.04304
0.04302
0.043
0.04298
0.04296
pps2dot/4 (us)
0.04304
0.04302
0.043
0.04298
0.04296
pps2dot/5 (us)
0.04304
0.04302
0.043
0.04298
0.04296
00h
05h
10h
15h
20h
25h
30h
Time


pps2dot/6 (us)
0.03904
0.03902
0.039
0.03898
0.03896
pps2dot/7 (us)
0.04705
0.047
0.04695
pps2dot/8 (us)
0.03904
0.03902
0.039
0.03898
0.03896
tsys 001l
600
400
200
tsys 009l
800
600
400
200
tsys 017u
200
150
100
50
0
00h
05h
10h
15h
20h
25h
30h
Time


tsys 025u
400
200
tsys 033u
600
400
200
0
tsys 041u
400
300
200
100
tsys 049u
1000
500
tsys 057u
600
400
200
0
00h
05h
10h
15h
20h
25h
30h
Time