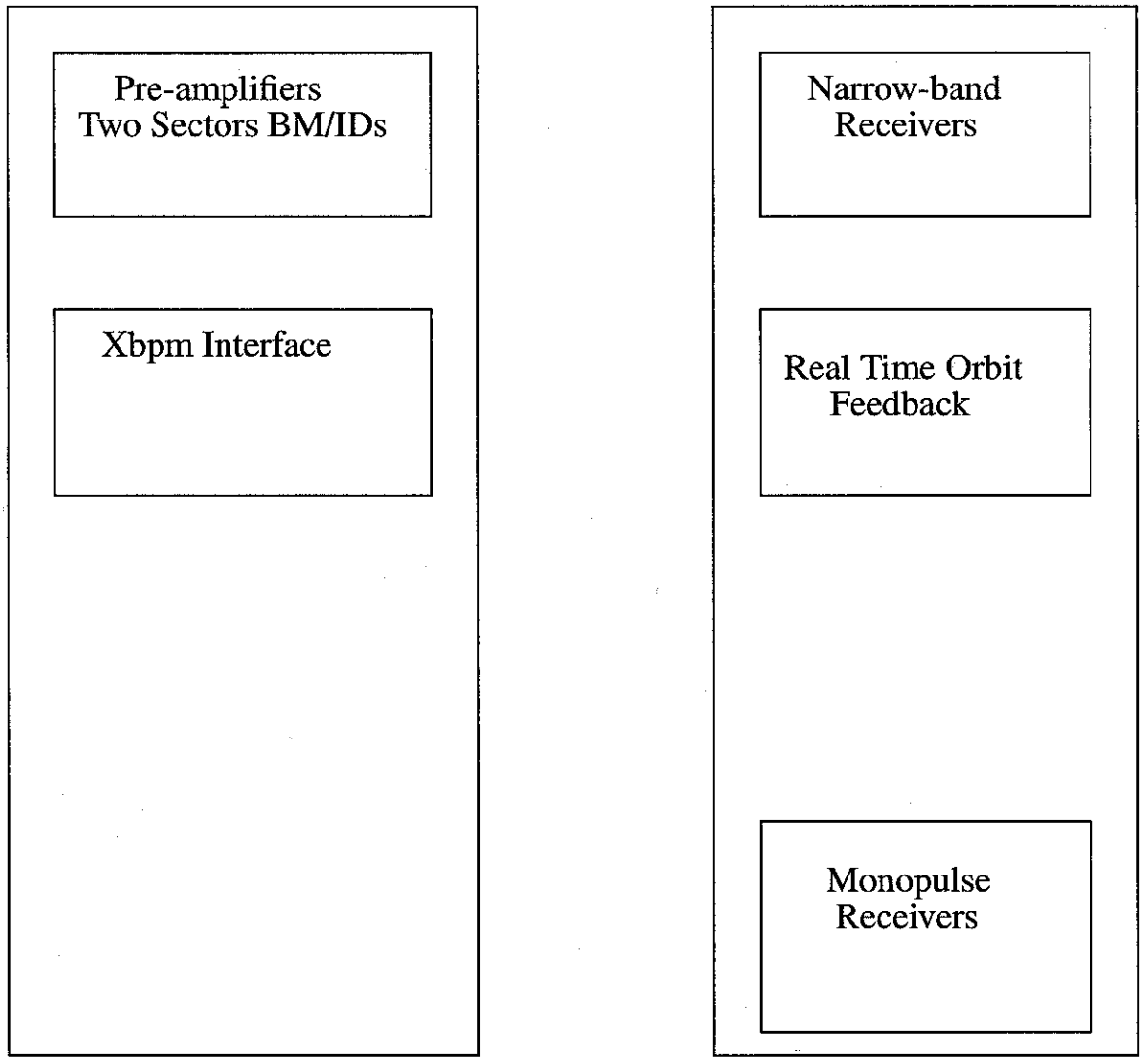


Fig 1. Xbpm Interface Layout

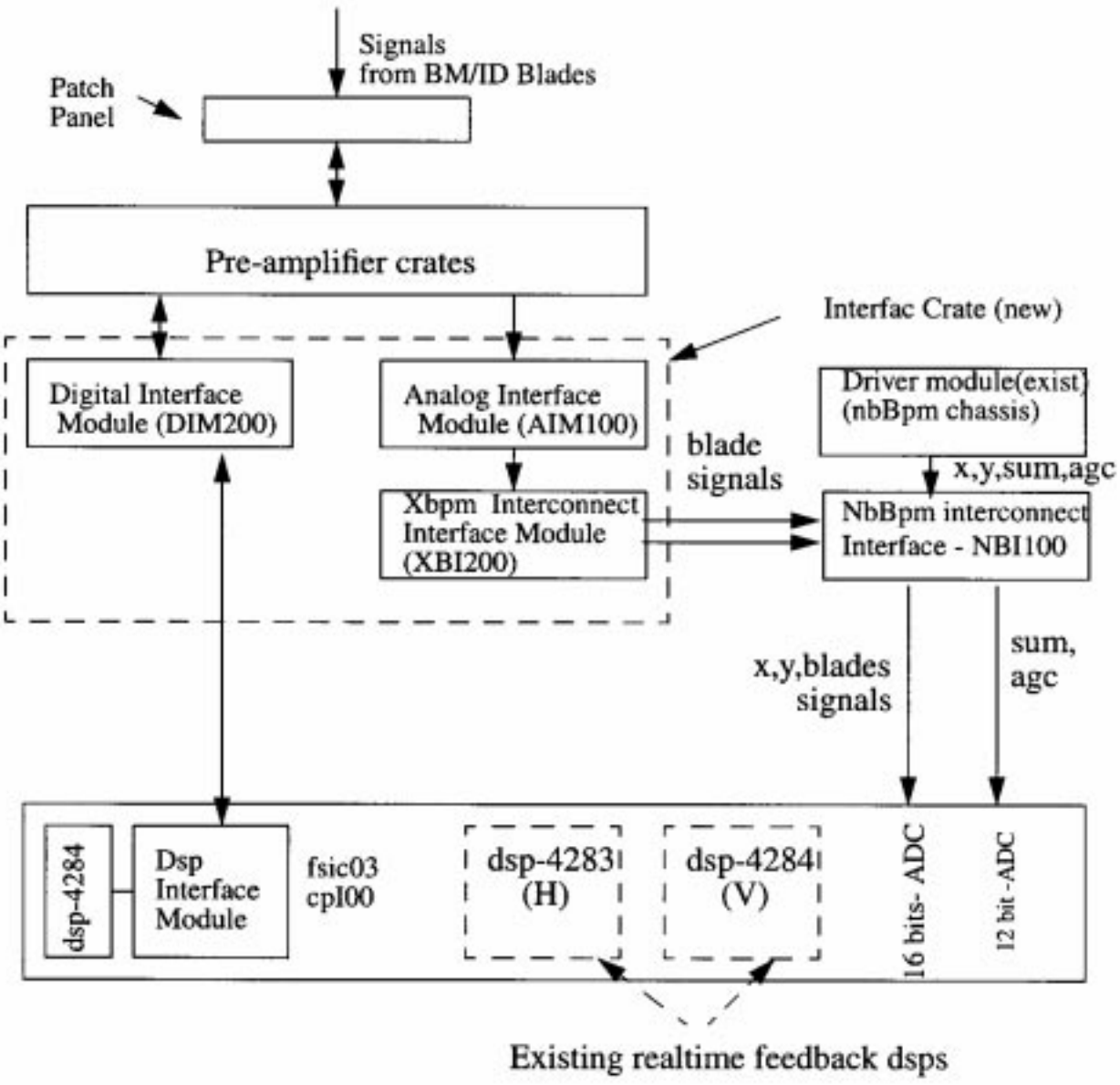


Fig 2. Xbpm Interface Signal Flow

Processing and Controls - xbpm Interface

Om Singh, John Carwardine, Glenn Decker and Frank Lenkszuz
04/28/00

1.0 Software implementation

Development of software implementation will be done in several phases and, for sake of simplicity, will be called phase 1, phase 2 .... Unless, it is stated otherwise, the present implementation phase level will be assumed as phase 1. Phase 2 level will follow and so on if needed.

2.0 Fast data processing (upto 2000 Hz)

2.1 Digitize all blades and get gains data

2.2 Normalize blades data in microamps

2.3 Compute x/y

2.4 Pass x/y data only to realtime feedback system

2.5 All above processing in less than 50 microsecond

2.6 Install 1.5 Hz - 6 pole digital filters for blades signals

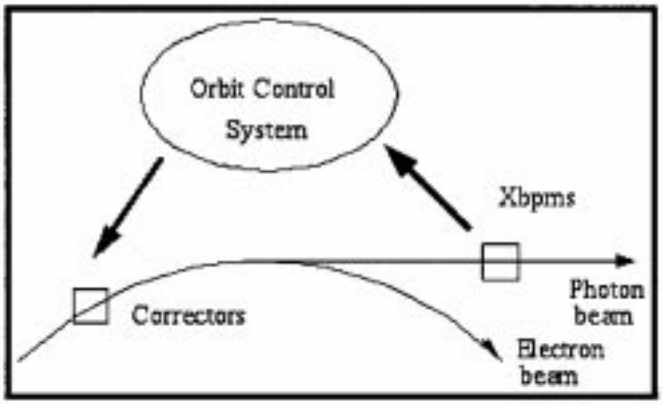
2.7 Pass filtered data to slow processing (10 hz)

3.0 Slow data processing (10 Hz)

3.1 Generate ms, msAve (N=2?) and mswAve (weight=0.1) blades signals

3.2 (Phase 2) Need to add concept of offset to either the blade or position signal. This offset may need to be scaled with the beam current. Generate adjusted blade or position signals.

3.3 Generate new pvs and medm screen as needed.



X-bpm Installation Schedule

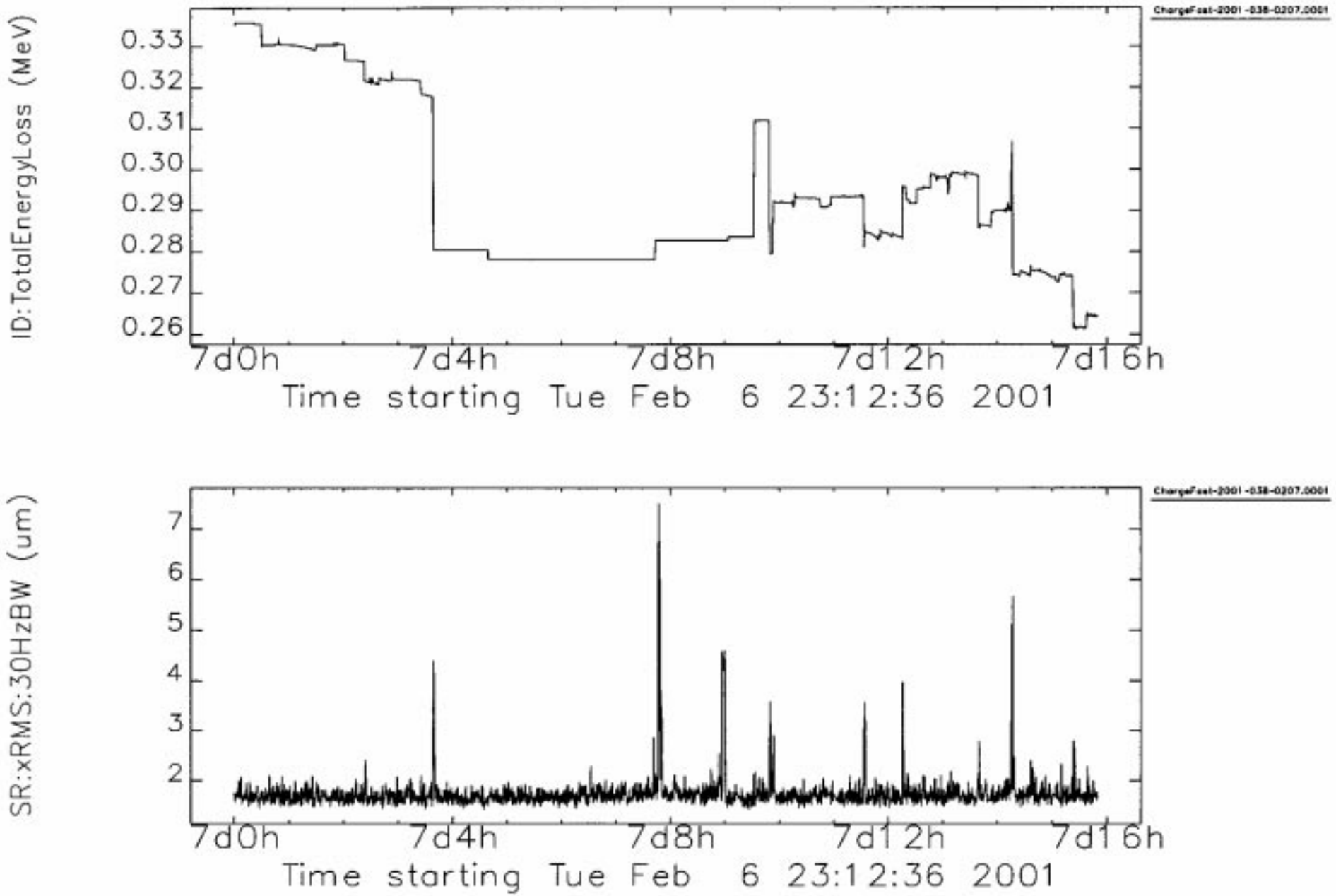
This is a tentative schedule of future Xbpm installation events.

- October Shutdown

- November
  - Resume construction of Xbpm Interface components.
  - Install Xbpm Interface Amps and chassis in sectors 1&2.
  - Continue alignment of Xbpm blades in all sectors.
  - Order additional components for 2nd "mobile" IOC cart.
  - Plan for December shutdown.

- December Shutdown
  - Shutdown
    - Install Xbpm signal cables and hardware for sectors 1-4, 13&14.

- April Shutdown
  - Install cables from tunnel to mezzanine and install hardware for sectors 5-12.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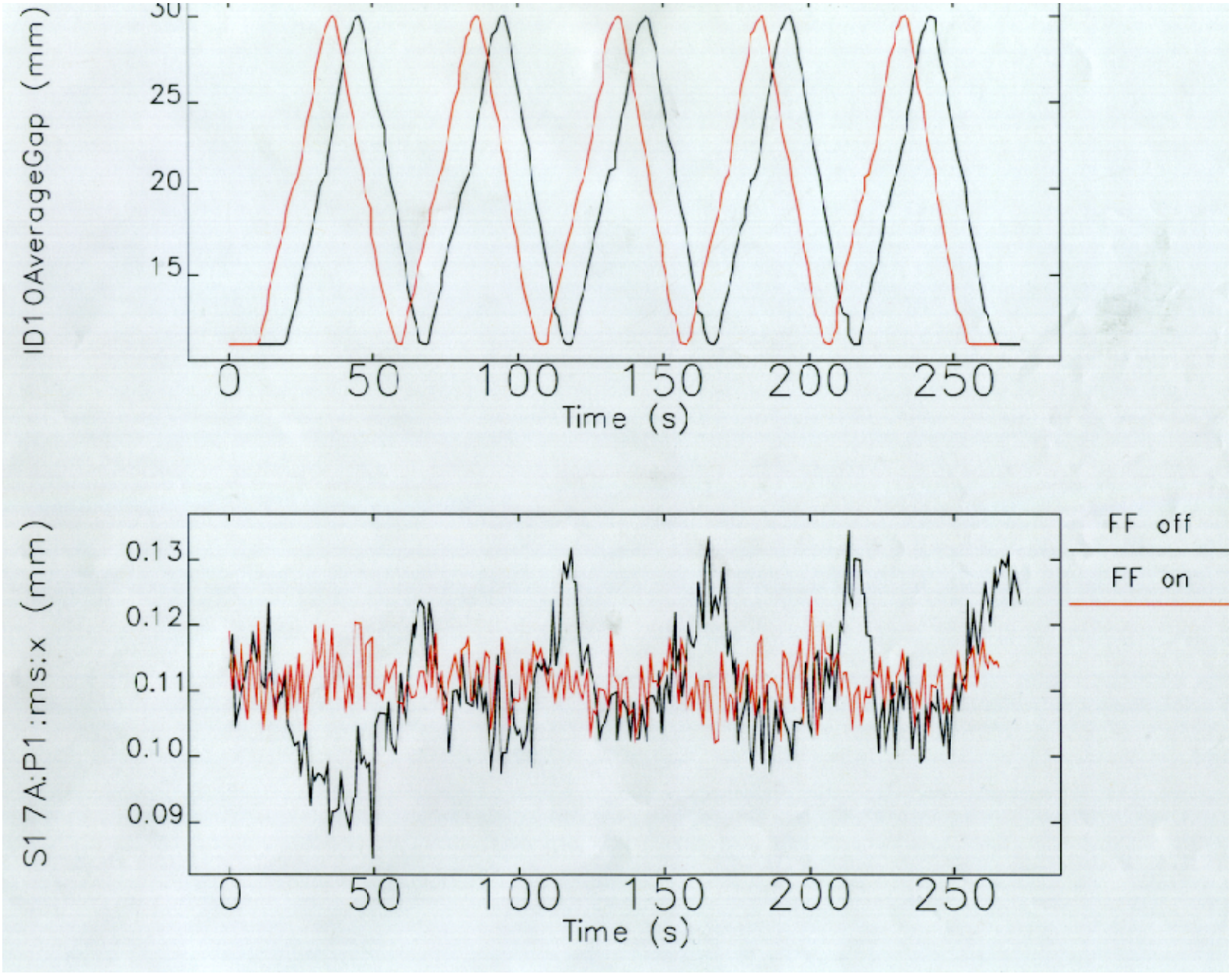
0.32
0.31
0.30
0.29
0.28
0.27
0.26
7d0h
7d4h
7d8h
7d12h
7d16h
Time starting Tue Feb 6 23:12:36 2001
ChargeFast-2001-038-0207.0001
SR:xRMS:30HzBW (um)
7
6
5
4
3
2
7d0h
7d4h
7d8h
7d12h
7d16h
Time starting Tue Feb 6 23:12:36 2001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25
20
15
0
50
100
150
200
250
Time (s)
S17A:P1:ms:x (mm)
0.13
0.12
0.11
0.10
0.09
0
50
100
150
200
250
Time (s)
FF off
FF on