Status of the B-dot System

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BField/Trk/Soft Meeting

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B-dot System

Software:

- Many bugs fixed.
- Master and slave programs are different.
  - Slave program is compiled.
  - Slave program modified to run without master information.
- Each master and client server run independly.
- Step voltages optimized.
- Program takes ~1.5 h per module to run a complete loop.

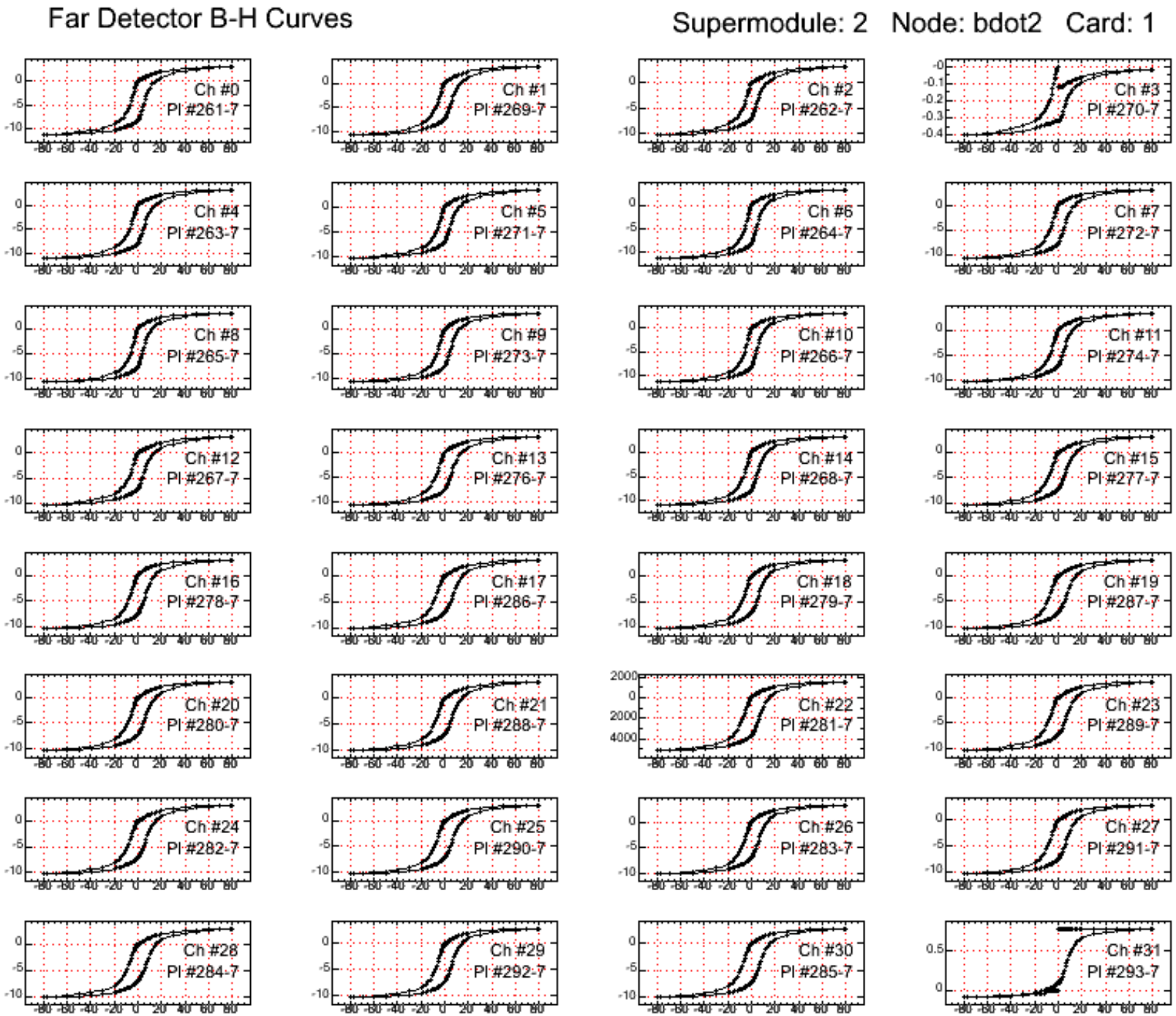
Hardware:

- All seven machines are now working.
- SM1 power supply jumps to ~17 amps when control is passed from DCS to Bdot.

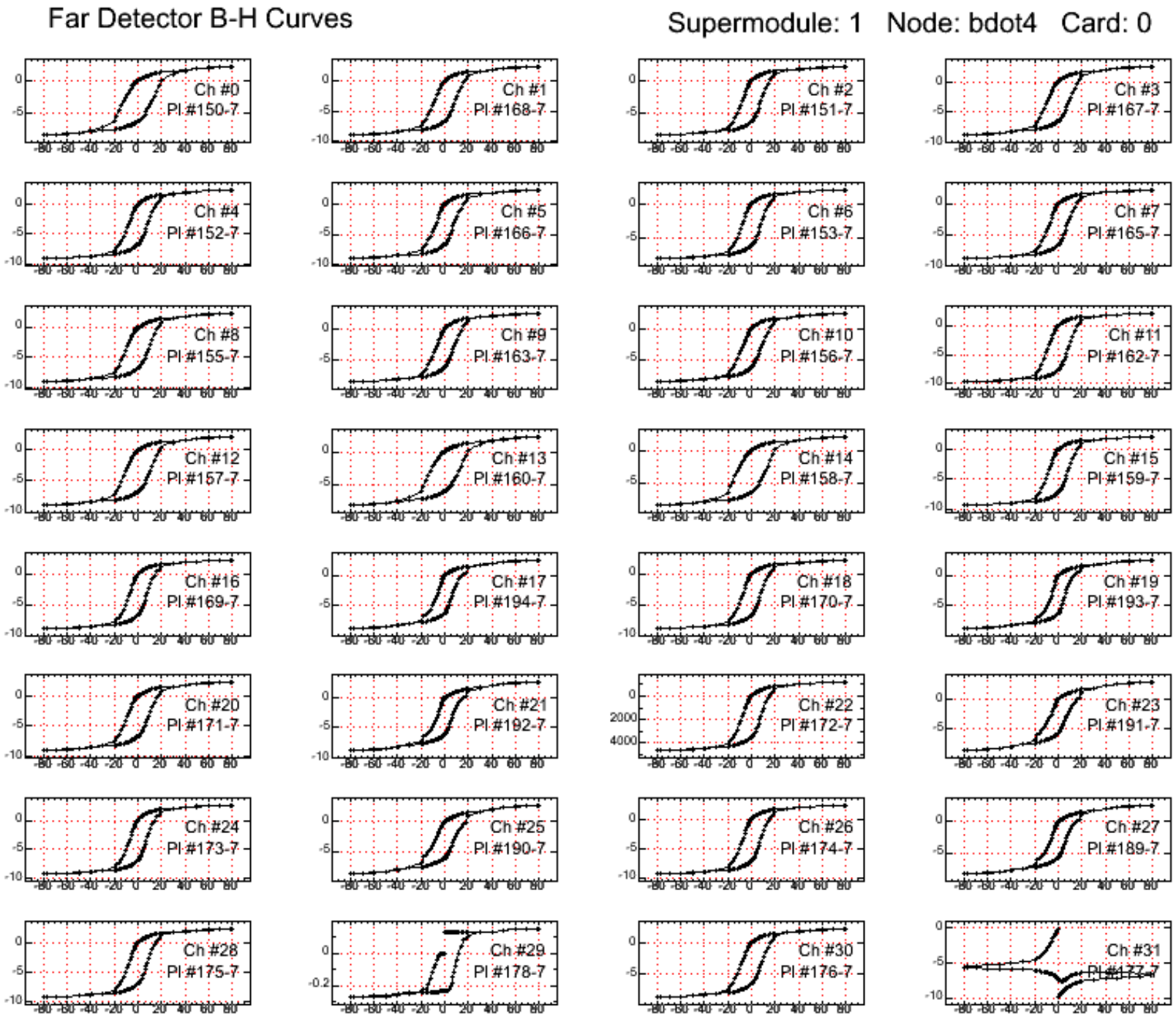
B-dot Calibration

- We have a full set of data (from SM1 and SM2).
- Most of the calibration can be done without interruption to the magnet.
  - ADC noise per channel (done).
  - Gain correction per channel.
- We are starting to analyse the data.

B-dot Data (I)


Far Detector B-H Curves
Supermodule: 2 Node: bdot2 Card: 1
Ch #0 Pl #261-7
Ch #1 Pl #269-7
Ch #2 Pl #262-7
Ch #3 Pl #270-7
Ch #4 Pl #263-7
Ch #5 Pl #271-7
Ch #6 Pl #264-7
Ch #7 Pl #272-7
Ch #8 Pl #265-7
Ch #9 Pl #273-7
Ch #10 Pl #266-7
Ch #11 Pl #274-7
Ch #12 Pl #267-7
Ch #13 Pl #276-7
Ch #14 Pl #268-7
Ch #15 Pl #277-7
Ch #16 Pl #278-7
Ch #17 Pl #286-7
Ch #18 Pl #279-7
Ch #19 Pl #287-7
Ch #20 Pl #280-7
Ch #21 Pl #288-7
Ch #22 Pl #281-7
Ch #23 Pl #289-7
Ch #24 Pl #282-7
Ch #25 Pl #290-7
Ch #26 Pl #283-7
Ch #27 Pl #291-7
Ch #28 Pl #284-7
Ch #29 Pl #292-7
Ch #30 Pl #285-7
Ch #31 Pl #293-7

B-dot Data (II)


Far Detector B-H Curves
Supermodule: 1 Node: bdot4 Card: 0
Ch #0 Pl #150-7
Ch #1 Pl #168-7
Ch #2 Pl #151-7
Ch #3 Pl #167-7
Ch #4 Pl #152-7
Ch #5 Pl #166-7
Ch #6 Pl #153-7
Ch #7 Pl #165-7
Ch #8 Pl #155-7
Ch #9 Pl #163-7
Ch #10 Pl #156-7
Ch #11 Pl #162-7
Ch #12 Pl #157-7
Ch #13 Pl #160-7
Ch #14 Pl #158-7
Ch #15 Pl #159-7
Ch #16 Pl #169-7
Ch #17 Pl #194-7
Ch #18 Pl #170-7
Ch #19 Pl #193-7
Ch #20 Pl #171-7
Ch #21 Pl #192-7
Ch #22 Pl #172-7
Ch #23 Pl #191-7
Ch #24 Pl #173-7
Ch #25 Pl #190-7
Ch #26 Pl #174-7
Ch #27 Pl #189-7
Ch #28 Pl #175-7
Ch #29 Pl #178-7
Ch #30 Pl #176-7
Ch #31 Pl #177-7

Plans

B-dot System:

- Analyse FD B-dot data.
- Take ND B-dot data next week.
- We (two undergrad) will be taking data from steel samples soon (absolute B-H curves).

B-Field Maps:

- Map 203 available for tests. (no significant differences from 202).
- Working on a parametrized model for End Effect model and BH variations (B -> B').
- Next maps:
  - New field map for ND.
  - Supermodule gap model.