Muon system: database workshop

- What we do with databases
- Browsing tools we might like
- Existing interface software from Vladimir Lipaev (IHEP)

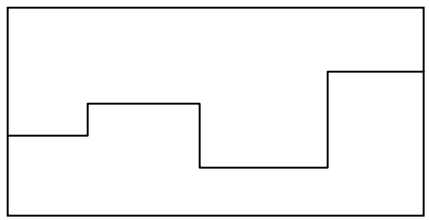
Muon System Databases

- What we have in databases:
  - Online hardware parameters: delay settings, masks, thresholds, …
  - Calibration constants (used online): tzeros, pedestals, gains
  - Calibration constants (used offline): delta-tzeros, gain ratios
- How we use them:
  - Extract values from database and download to hardare
  - Analyze pulser data and put calibration constants into datbase
  - Analyze beam data and put calibration corrections into databas

A few wish list items

- Compare calibration constants graphically with reference set.

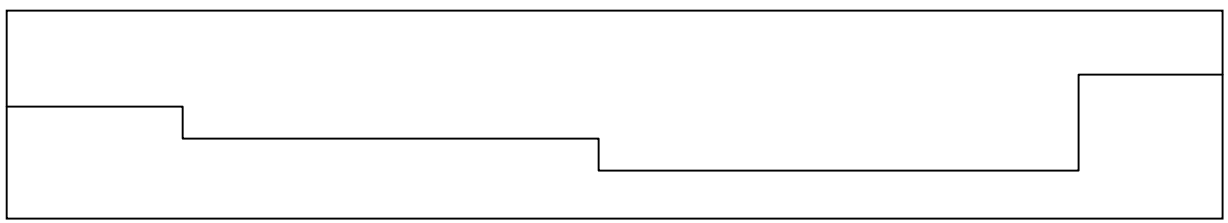
New-Old



Channel #

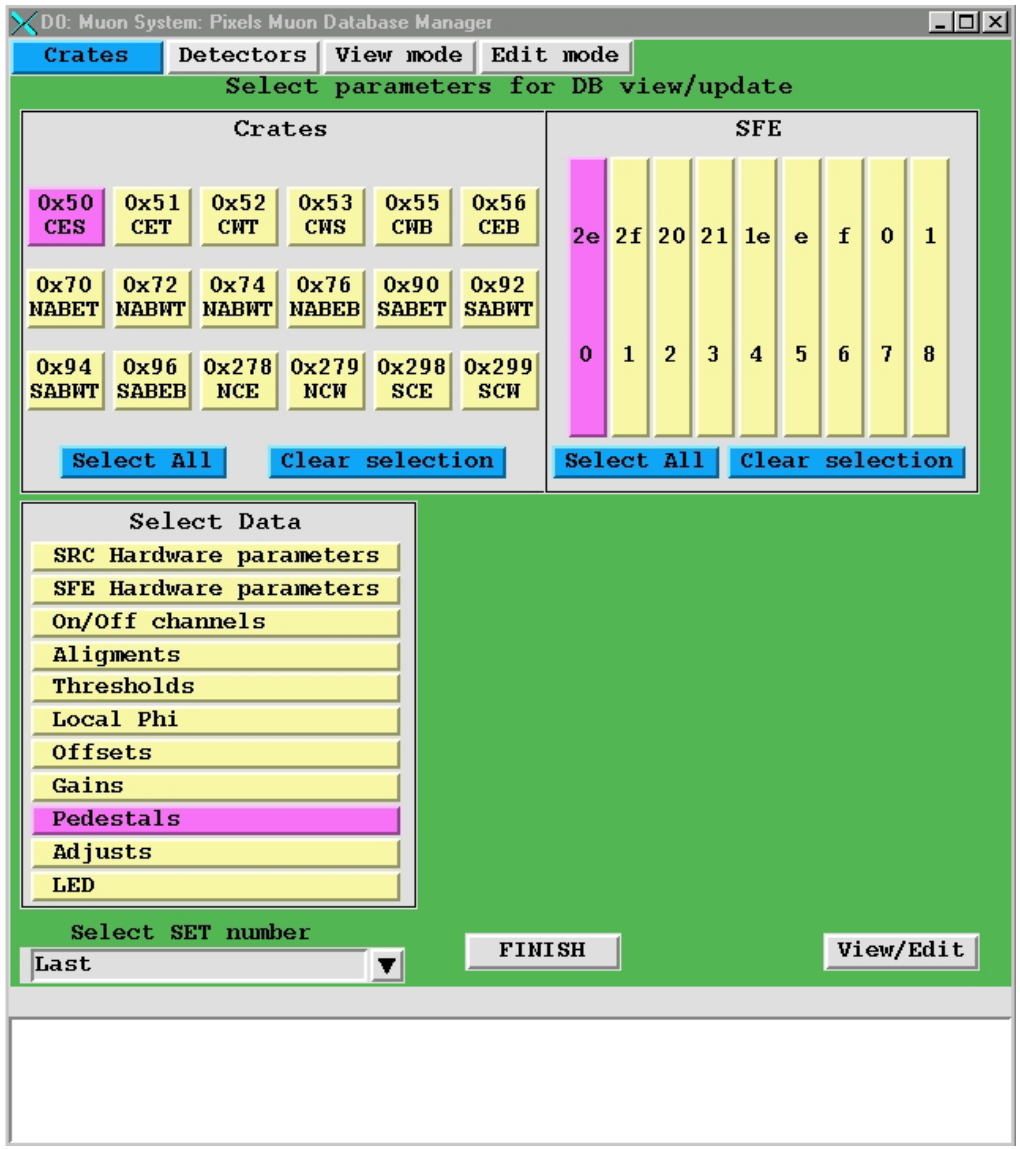
- Track the behavior of a constant vs. run number:

Tzero for one channel



Run #

Muon Scint online database/downloading gui: module & function selection



Muon Scint online db/dl gui: hardware params

D0: Muon System: Pixels Muon Database Manager

View mode | Edit mode

Select parameters for DB view/update

Crates

0x50 CES	0x51 CET	0x52 CWT	0x53 CWS	0x55 CWB	0x56 CEB
0x70 NABET	0x72 NABWT	0x74 NABWT	0x76 NABEB	0x90 SABET	0x92 SABWT
0x94 SABWT	0x96 SABEB	0x278 NCE	0x279 NCW	0x298 SCE	0x299 SCW

Select All | Clear selection

Select Data

- SRC Hardware parameters
- SFE Hardware parameters
- On/Off channels
- Aligments
- Thresholds
- Local Phi
- Offsets
- Gains
- Pedestals
- Adjusts
- LED

L1TRGLTNCY, PIPELINE
ESR 1, ESR 2
SFE mask, timeout
L1 trigger latency preset
Test pulse crossing preset
Test pulse L1 crossing preset
Test pulse coarse delay presetFi
Time between repeated test pulse
Local L1 delay;
L2, L3 hotlink CSR
IRQ7, IRQ6, IRQ5 vectors

SRC CSR0

Select SET number: Last

FINISH | Edit

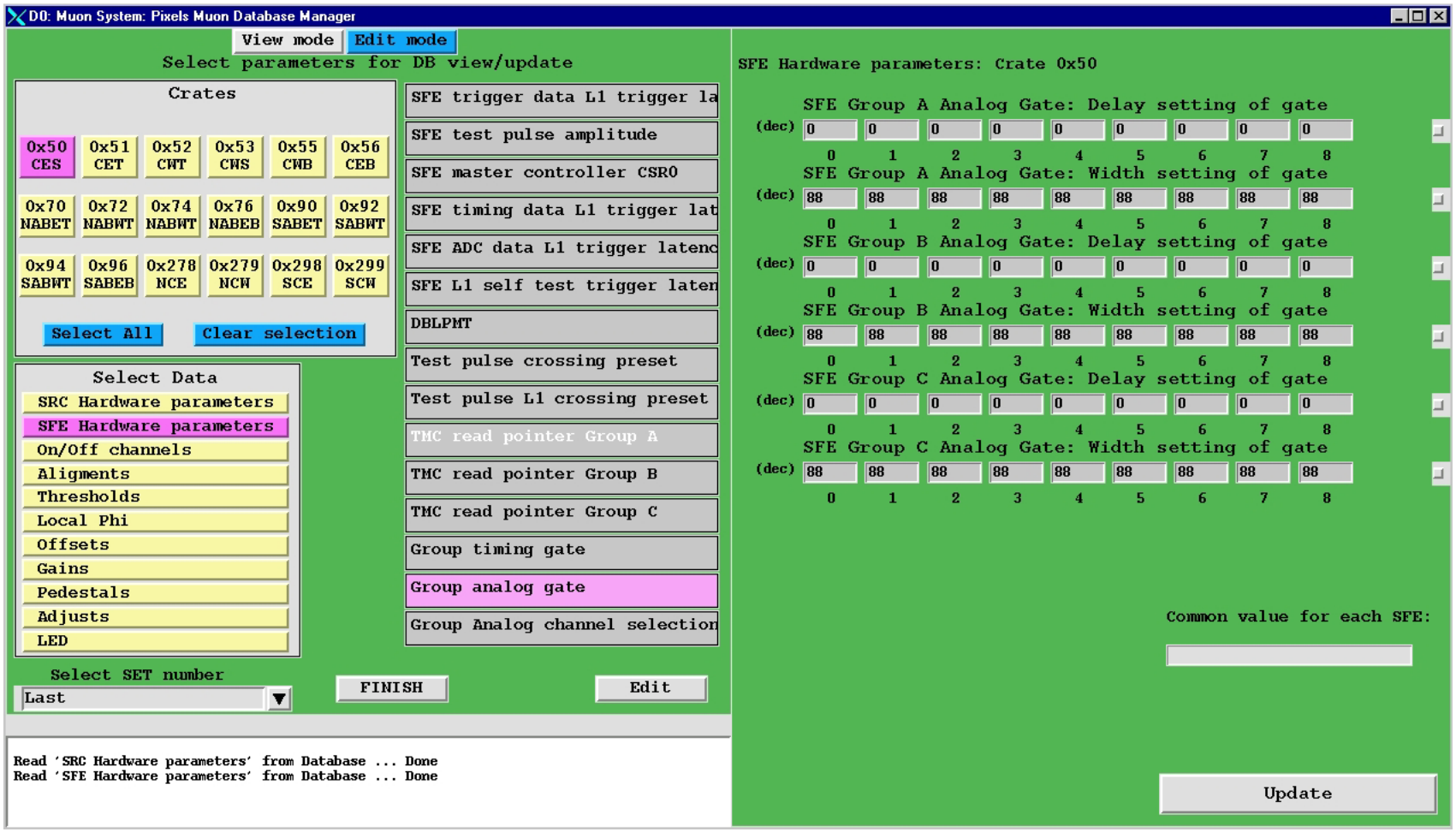
Read 'SRC Hardware parameters' from Database ... Done

SRC Hardware parameters: Crate 0x50

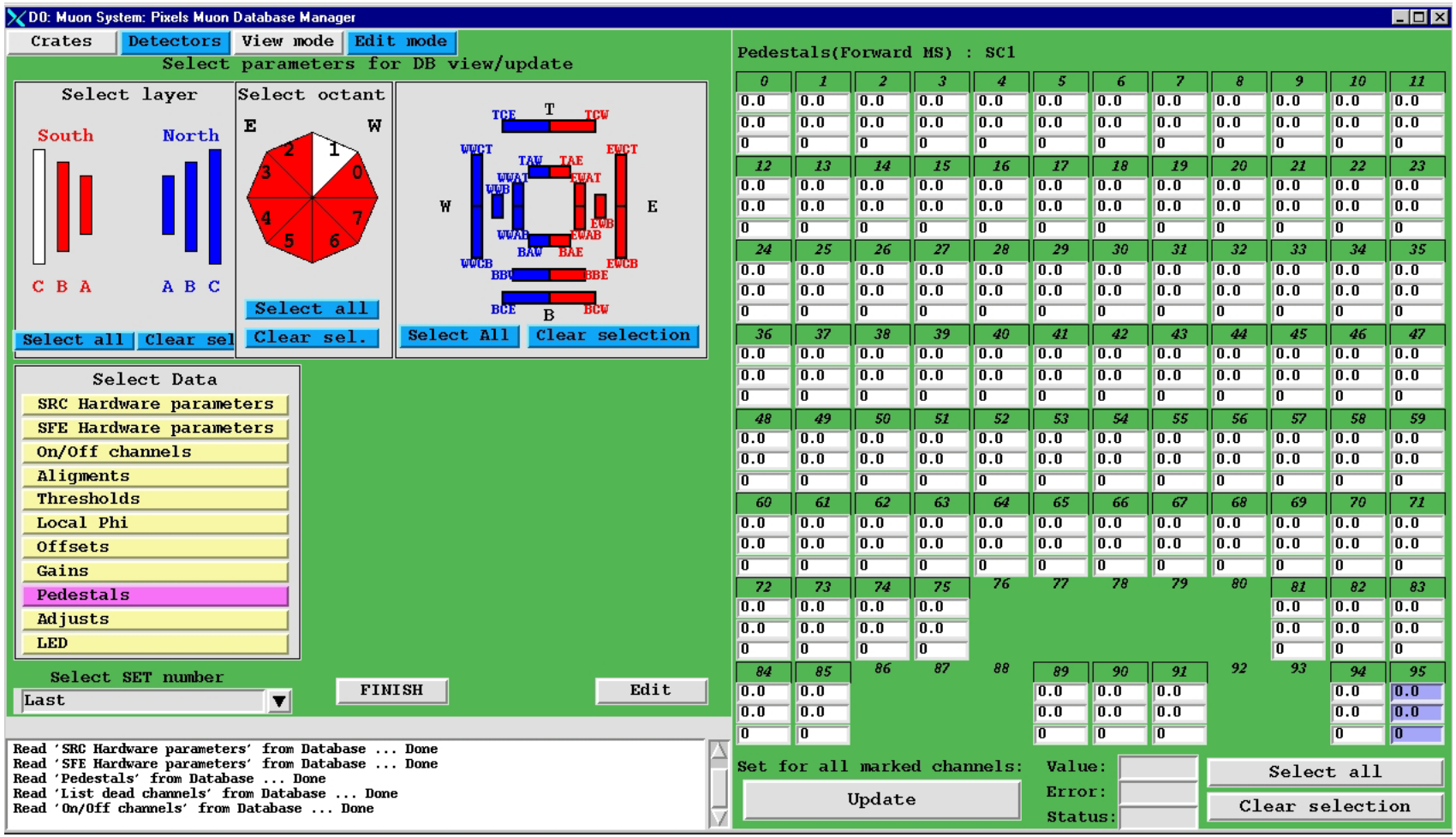
L1TRGLTNCY (dec)	33
PIPELINE (dec)	
TME_RP (dec)	
ESR: Flag for real data event [ESR1_EVTYP] (hex)	0
ESR: Flag for l/n data [ESR1_SCALE] (hex)	0
ESR: Aligment ID field [ESR1_ALID] (hex)	0
Calibration consd ID field [ESR2_CLID] (hex)	0
SFE mask [sfe_mask] (hex)	0
SFE timeout [to_set] (hex)	fe
L1 trigger latency preset [lat_pre] (dec)	
Test pulse crossing preset [tp_pre] (dec)	
Test pulse L1 crossing preset [l1tst_pre] (dec)	
Test pulse coarse delay preset [tp_dly_pre] (hex)	13
First Xing and synch gap delay [beam_dly] (dec)	16
Time between repeated test pulse [tp_rep_pre] (dec)	1
Local L1 delay [loc_l1_dly] (dec)	
L2 hotlink CSR [l2_hl] (hex)	1b
L3 hotlink CSR [l3_hl] (hex)	1b
IRQ7 vector (dec)	65
IRQ6 vector (dec)	66
IRQ5 vector (dec)	64

Update

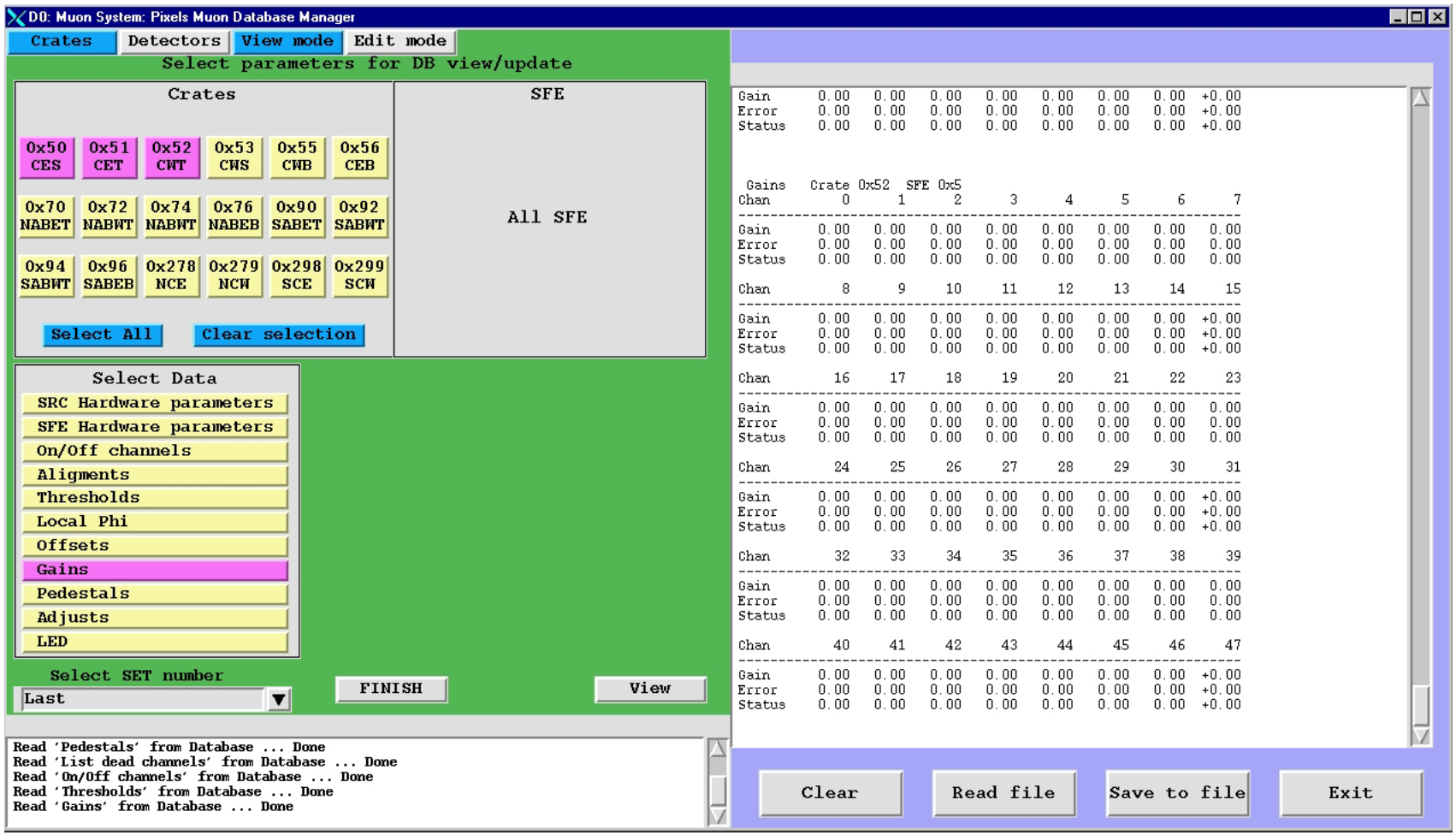
Muon Scint online db/dl gui: gates



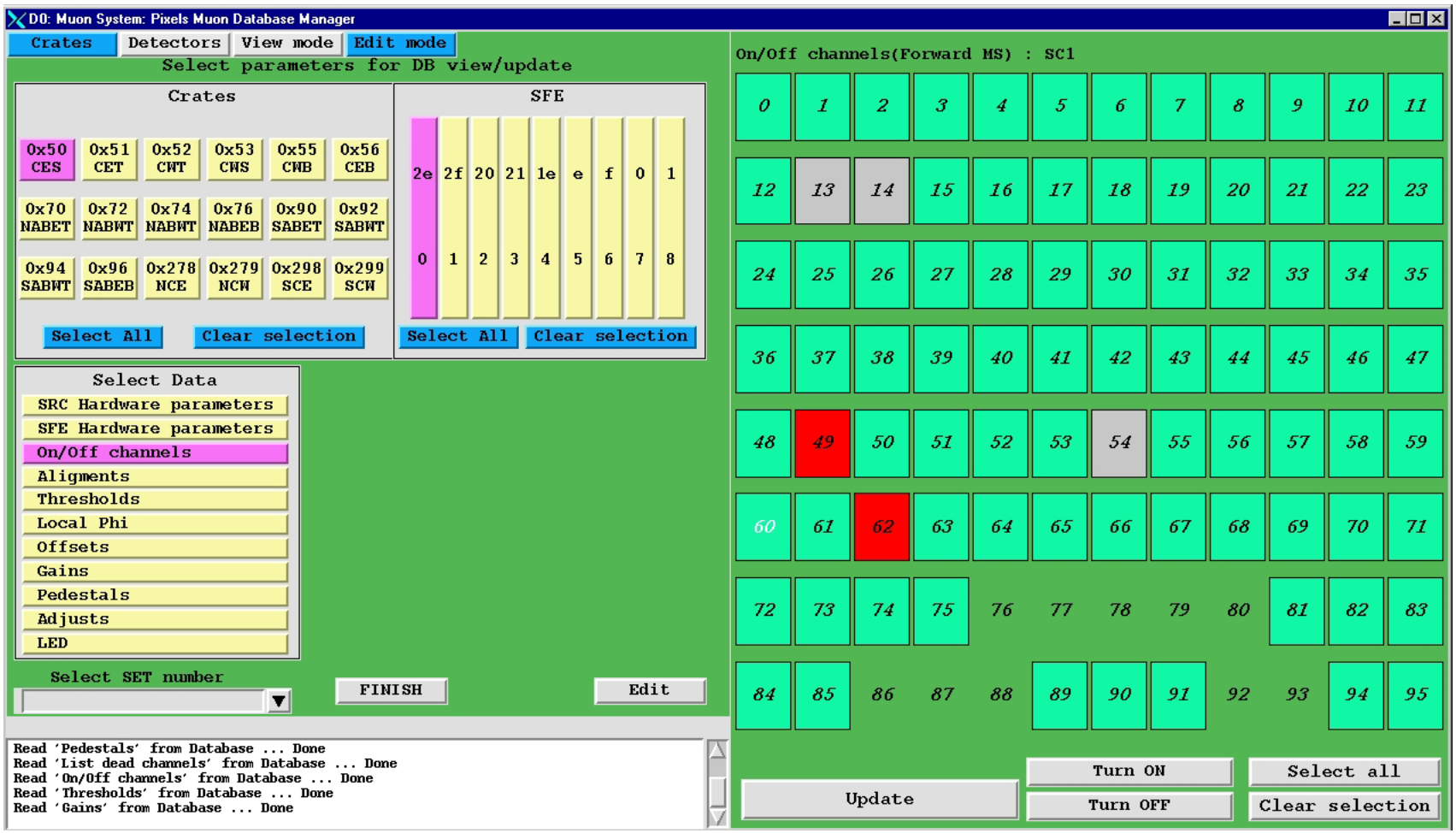
Muon Scint online db/dl gui: pedestals



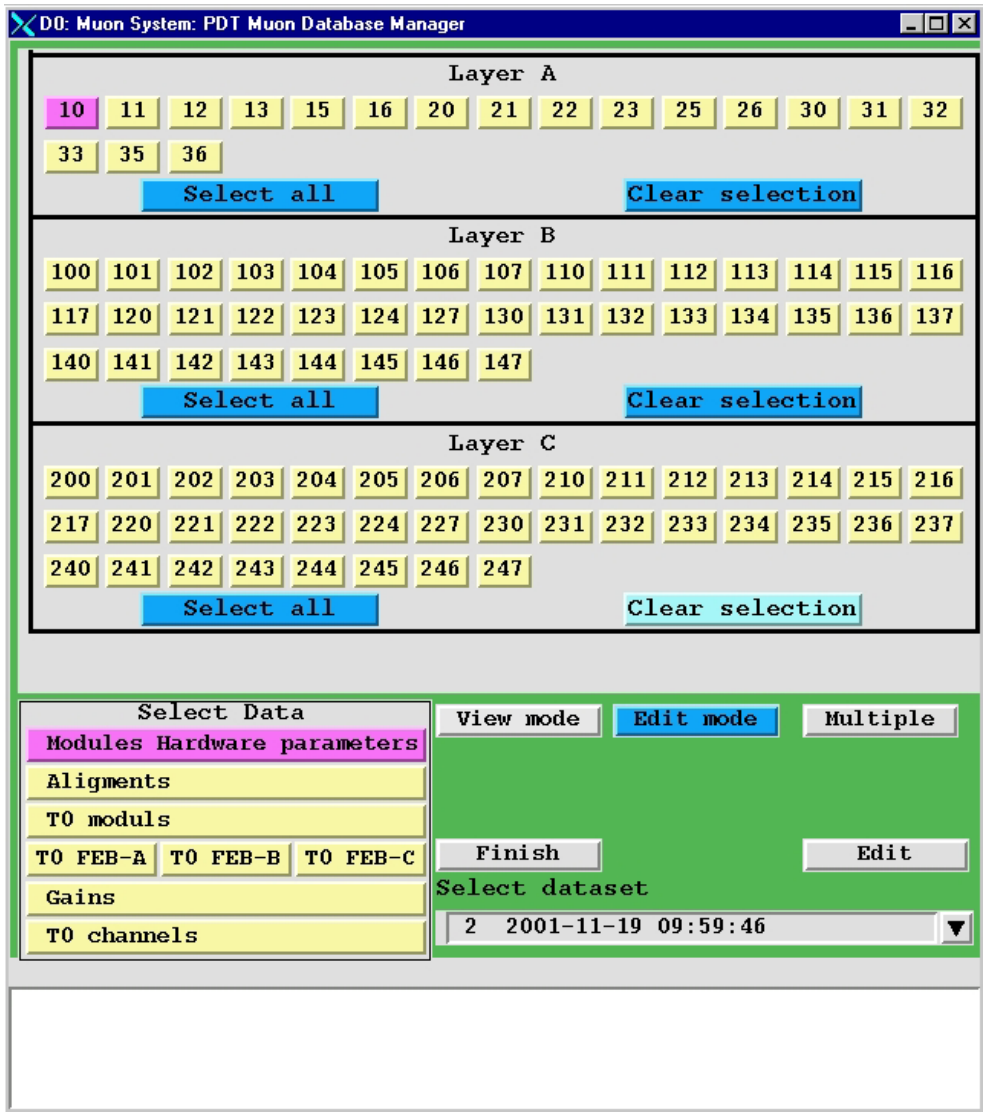
Muon Scint online db/dl gui: gains



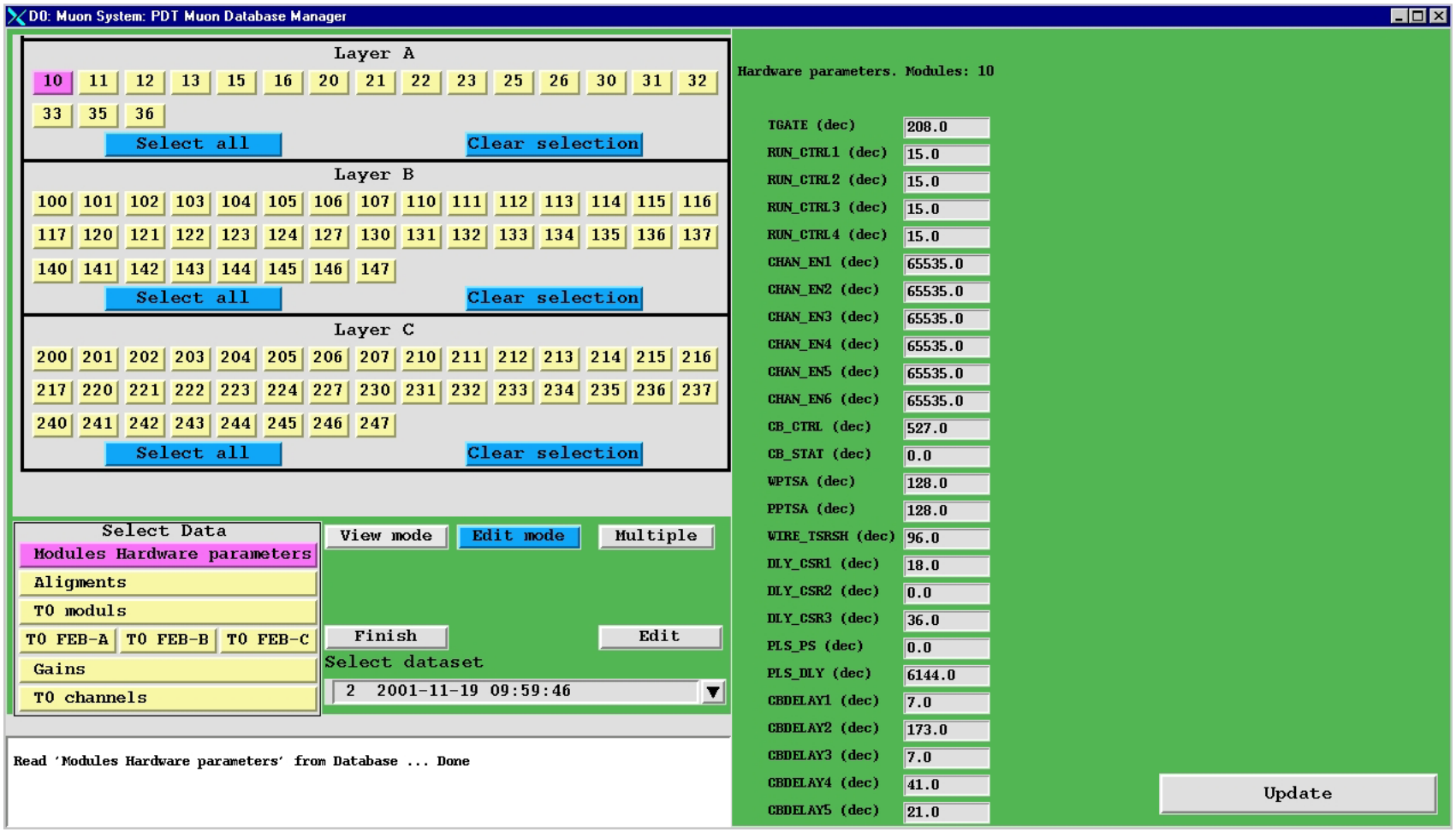
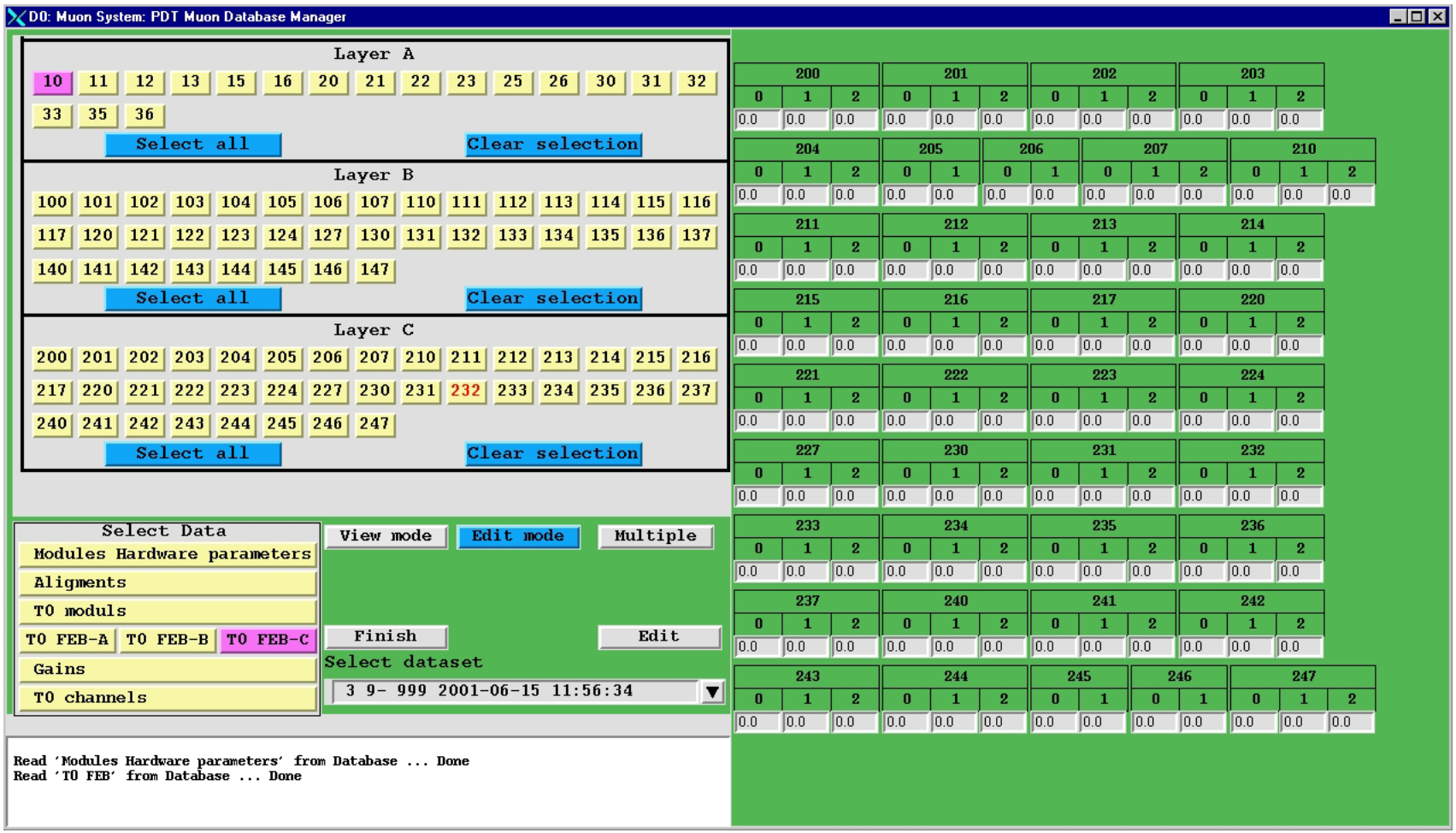
Muon Scint online db/dl gui: on/off channels



Muon PDT online db/dl gui: selecting modules



Muon PDT online db/dl gui: hardware params



Muon PDT online db/dl gui: t-zeros