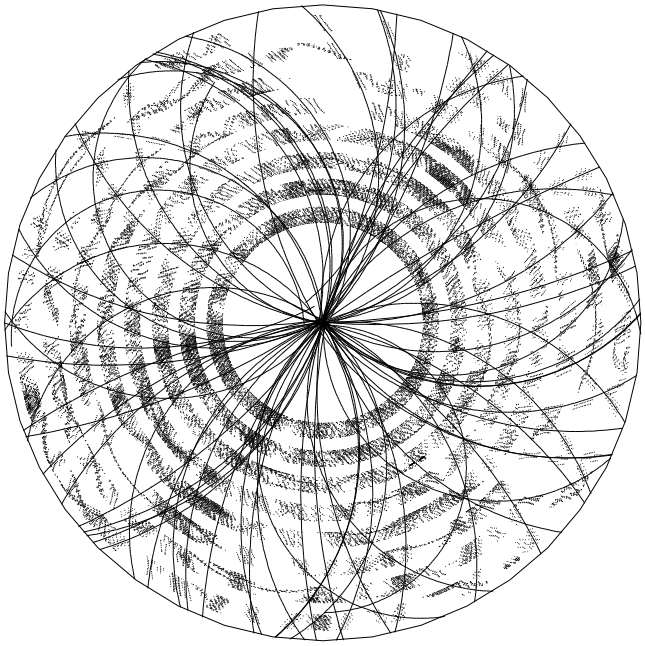
COT Update (May 09, 2002)



▷ COT channel count by superlayer:

Superlayer	12-wire Cells	Sense Wires
1	168	2016
2	192	2304
3	240	2880
4	288	3456
5	336	4032
6	384	4608
7	432	5184
8	480	5760
	2520	30240

▷ Front-end electronics:

⇒ ASDQ daughterboards (1260 total) service 2 cells

⇒ VME TDC's (315 total) input 4 ASDQ's (8 cells)

▷ HV electronics: (12 sense, 13 potential wires per cell)

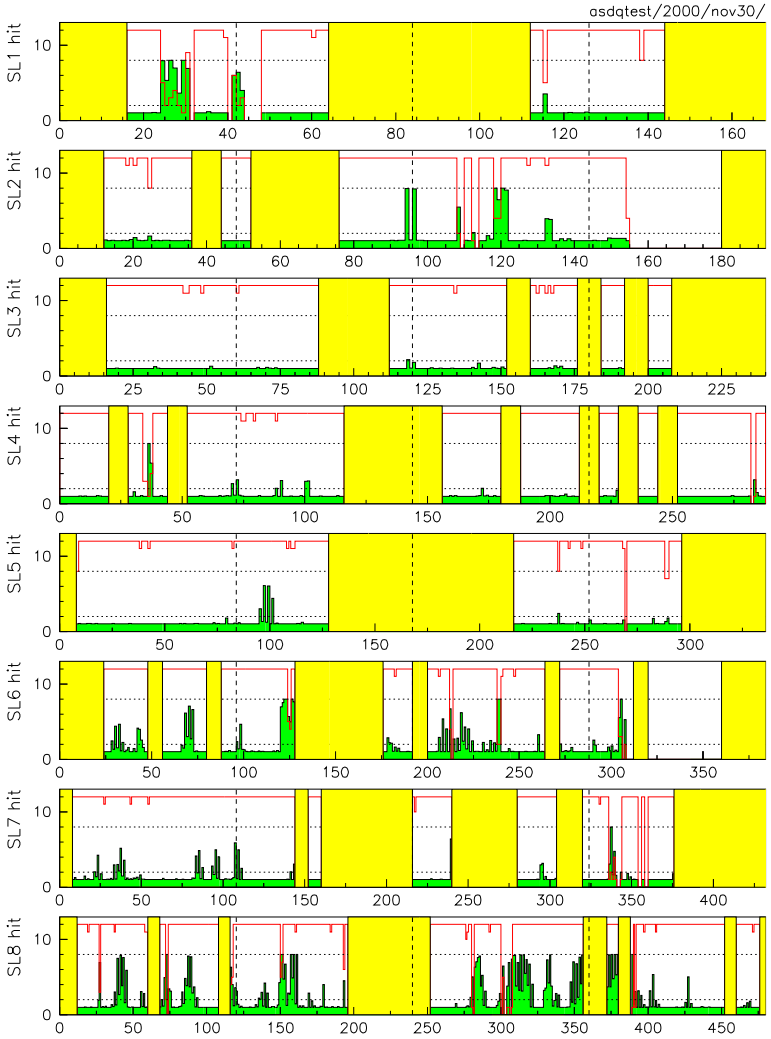
⇒ HV daughterboards (2520 total) for each cell

⇒ BiRa HV supply, 200 channels (8 SL $\times$ 25 wires)

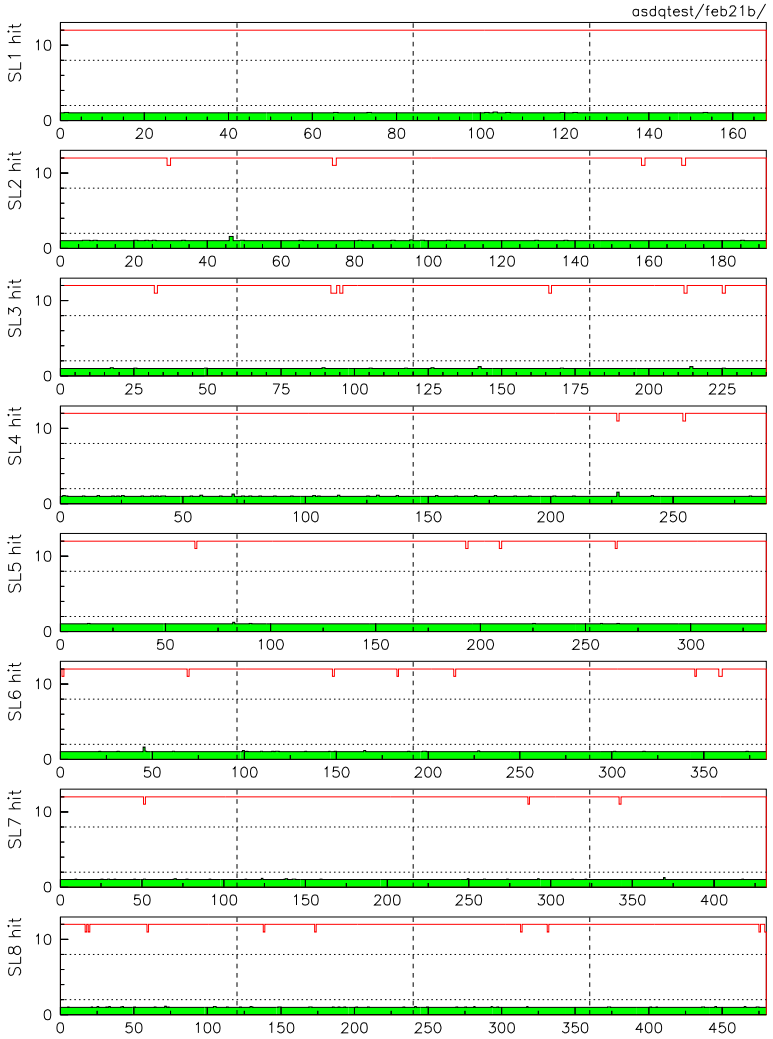
COT Front-end Status

▷ comparison of front-end readout: cell occupancy, wires/cell, missing TDC's

2000 Commissioning

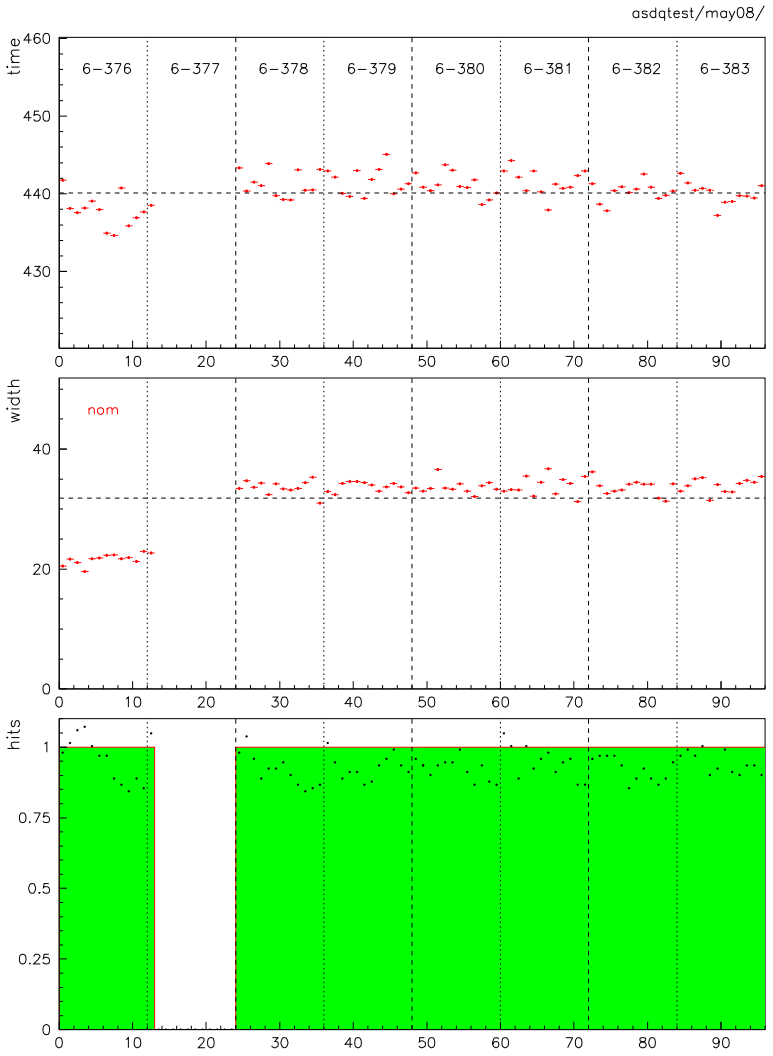


Spring, 2002

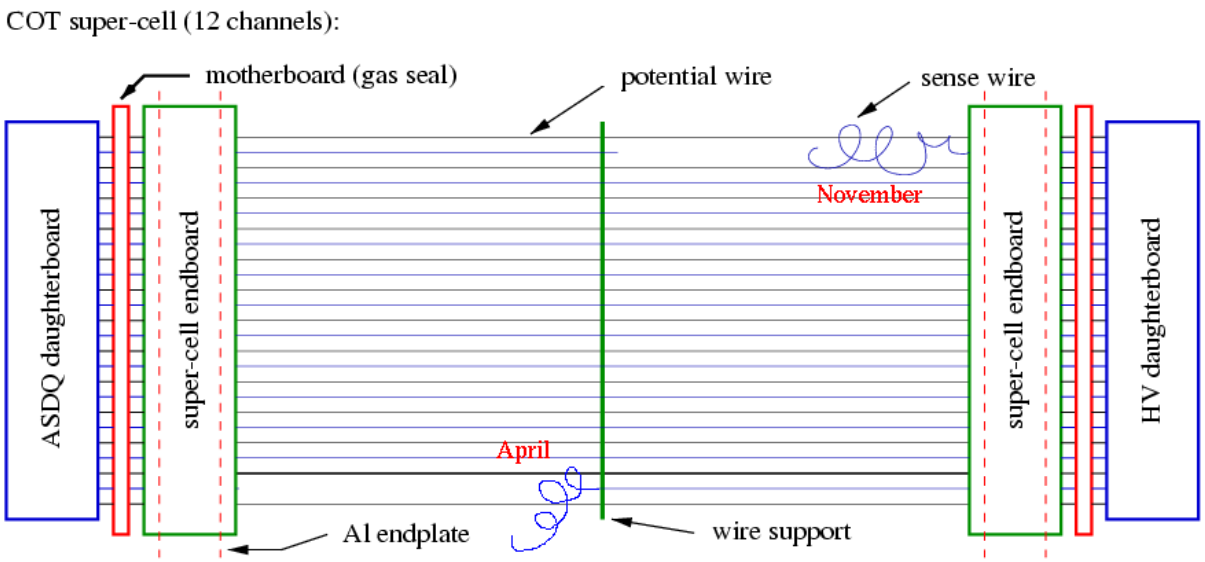


COT Front-end Status

- ▷ single-channel problems: ∼100 (0.3%)
  - ⇒ TDC (dead, noisy, bad widths): ∼20
  - ⇒ broken μ-coax, repeater, FC, ASDQ:
    - ∼30 dead, ∼20 noisy, ∼8 hot
    - ∼5 bad time, ∼10 width, ∼10 DTH
- ▷ cell-level problems:
  - ⇒ 1 bad repeater/FC plug-in (SL6-377, 11 channels dead)
  - ⇒ ∼20 cells noisy or bad calibration width
    - mostly damaged calibration line μ-coax
- ▷ TDC-level problems:
  - ⇒ intermittent occupancy/timing glitches
  - ⇒ modules swapped, but *no spares!*



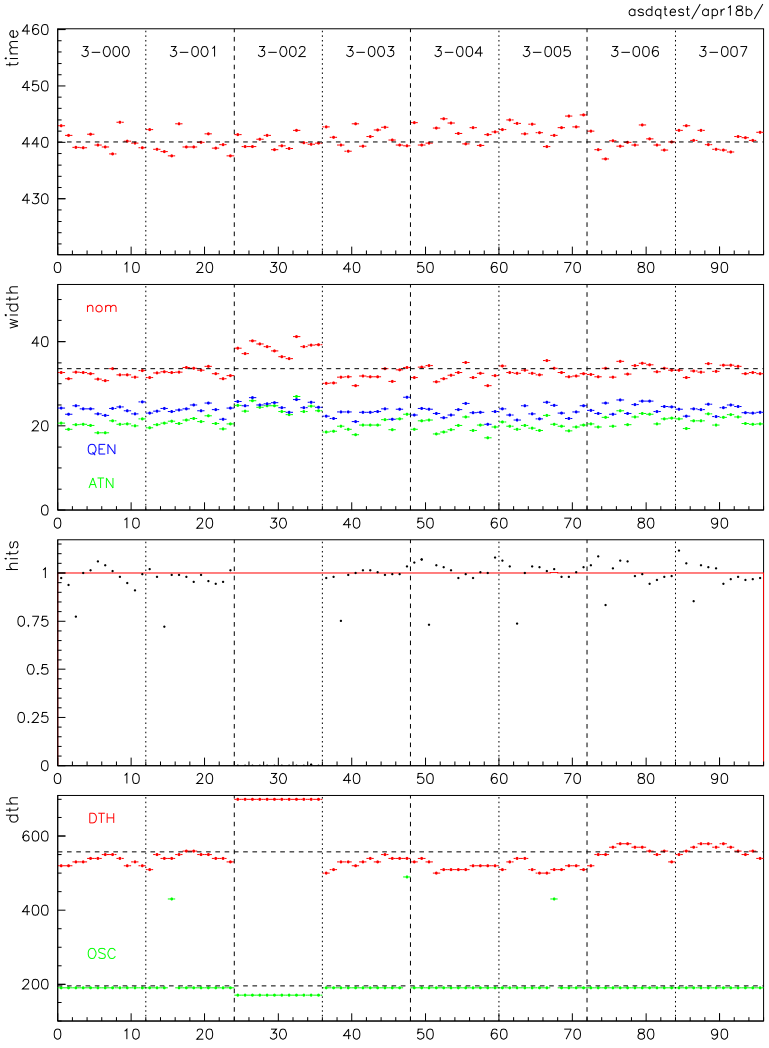
COT HV Status



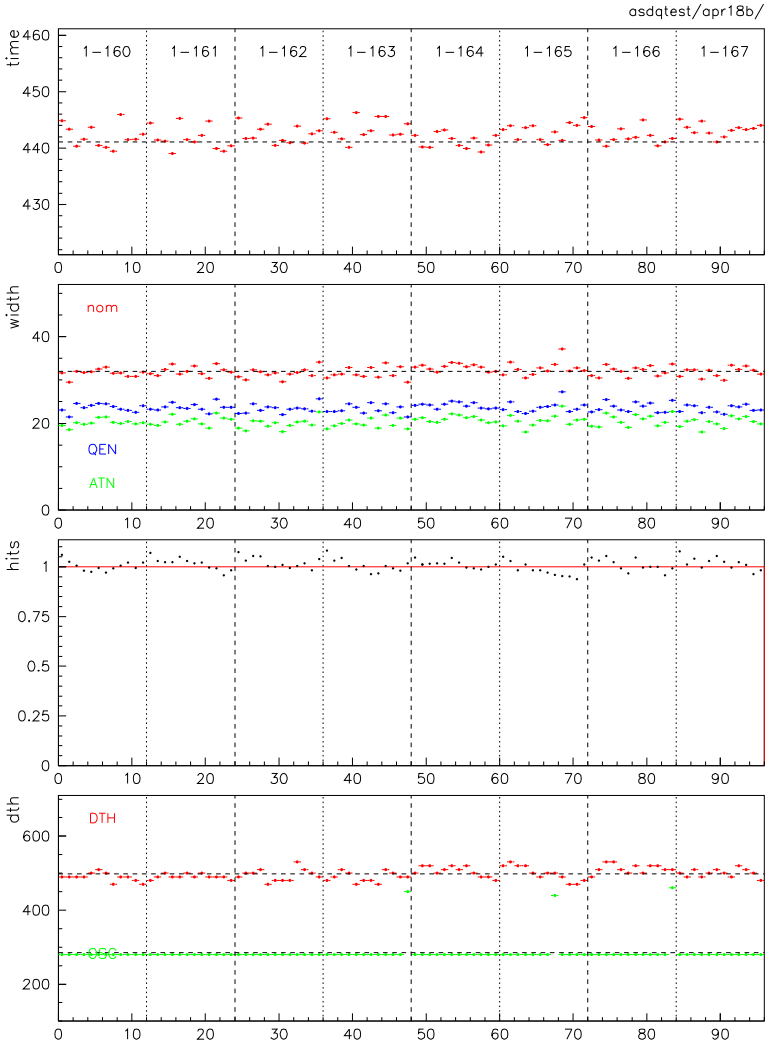
- ▷ persistently tripping wires:
  - ⇒ temporary "fix": separate HV quadrant of wire, reduce HV
  - ⇒ permanent fix: disable wire at HV daughterboard
  - ⇒ ∼20 sense wires disabled (6 in SL4-227)
- ▷ broken wires:
  - ⇒ November, 2001: broken at support rib, successfully extracted
  - ⇒ April, 2002: broken at endplate, removed entire 12-wire cell
    - SL3 HV reduced to 98.5% nominal (SL3-A (S2) reduced 40 V)
    - SL1-D (S8) reduced 5 V
  - ⇒ total of 13 sense wires removed

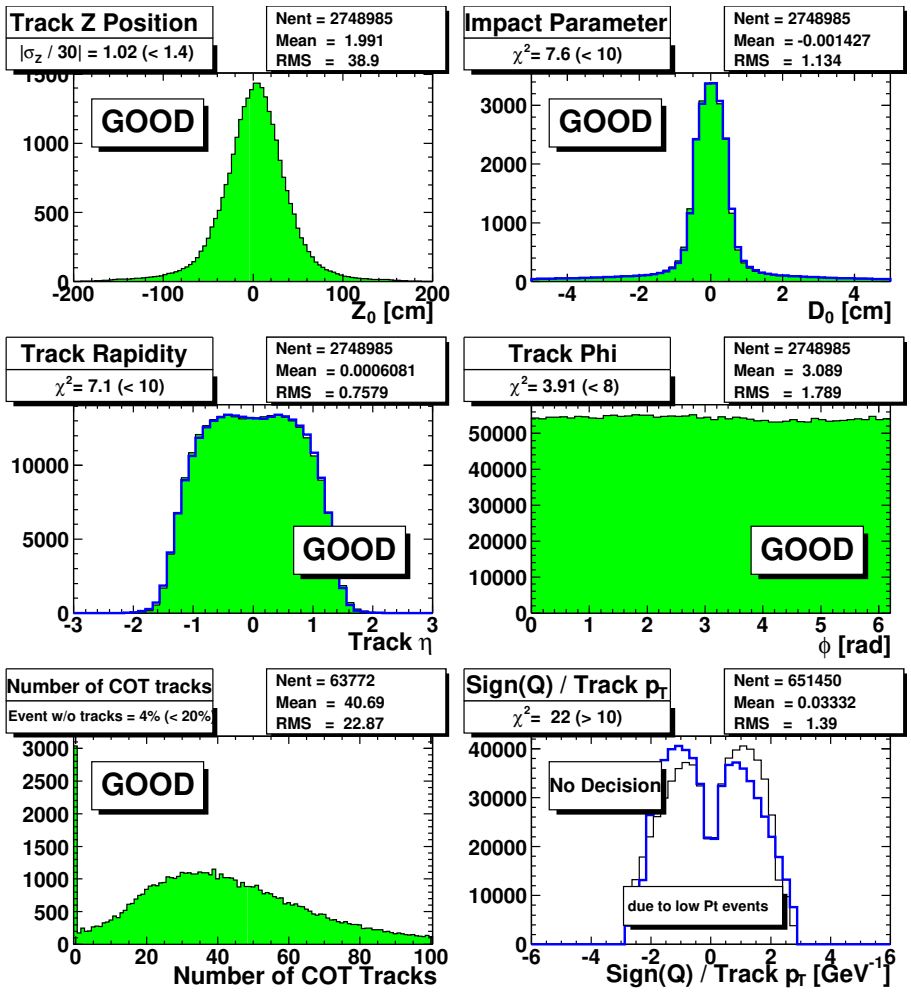
COT HV Status

SL3-A (Cells 000-007), S2 = −40 V



SL1-D (Cells 160-167), S8 = −5 V



COT Status Summary

- ▷ dead channel totals:
  - ⇒ ∼33 channels have dead HV, removed
    - 12 from SL3-002 (April), 6 from SL4-227
  - ⇒ ∼50 from front-end problems (μ-coax, TDC, plug-in)
    - 11 from SL6-377 FC plug-in