tof update

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STAR Analysis Mtg
BNL, Nov. 9 2003

pVPD

run-2
- single-range ADC readout
- auau central resn ~ 24ps

run-3
- dual range ADC readout (6:1)
- dAu minbias resn ~85ps
- pp minbias resn ~140ps

run-4
- dual range ADC readout (20?:1)
- new base-plate design (w/ scheblein & brown)

continuing its slow march downstream...
- now straddling cross-beam, another ~5”

otherwise no major changes for run-4...

expect good performance....

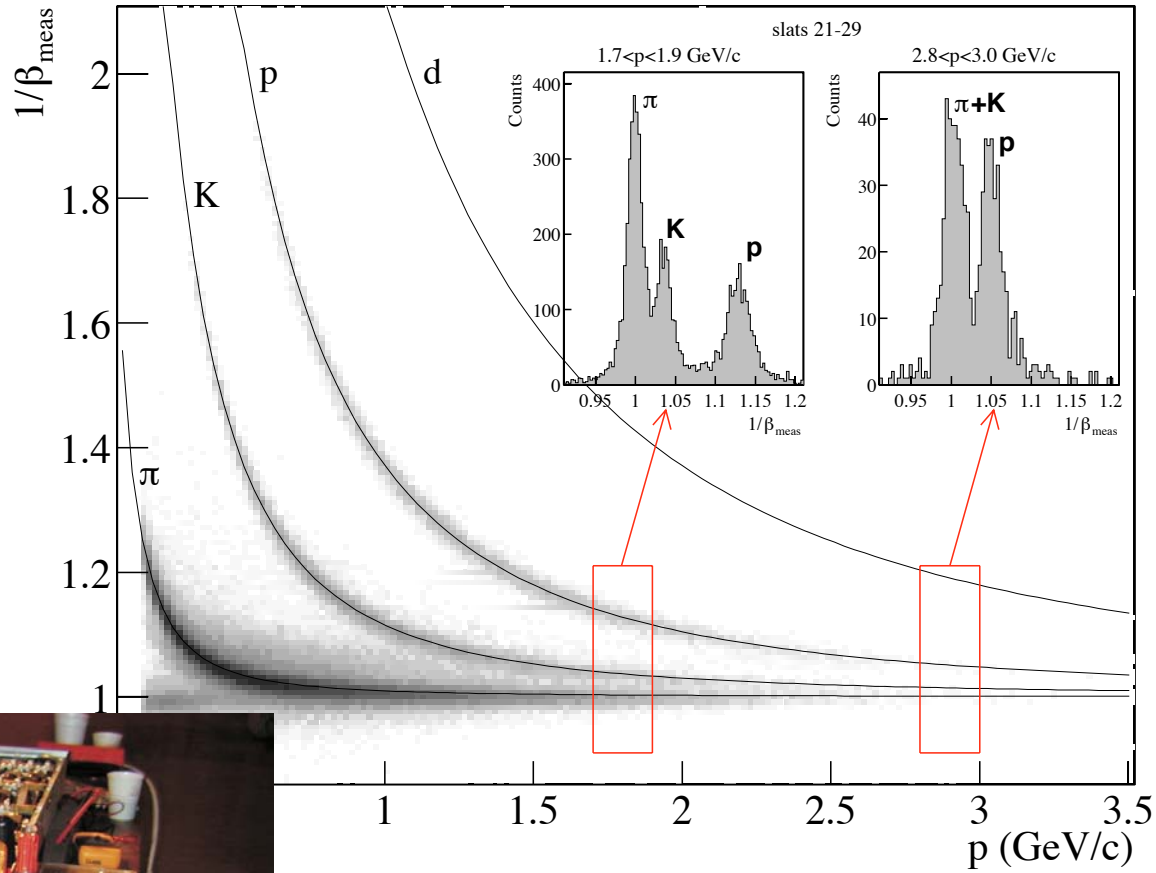
pVPD east in run-2 (view S)

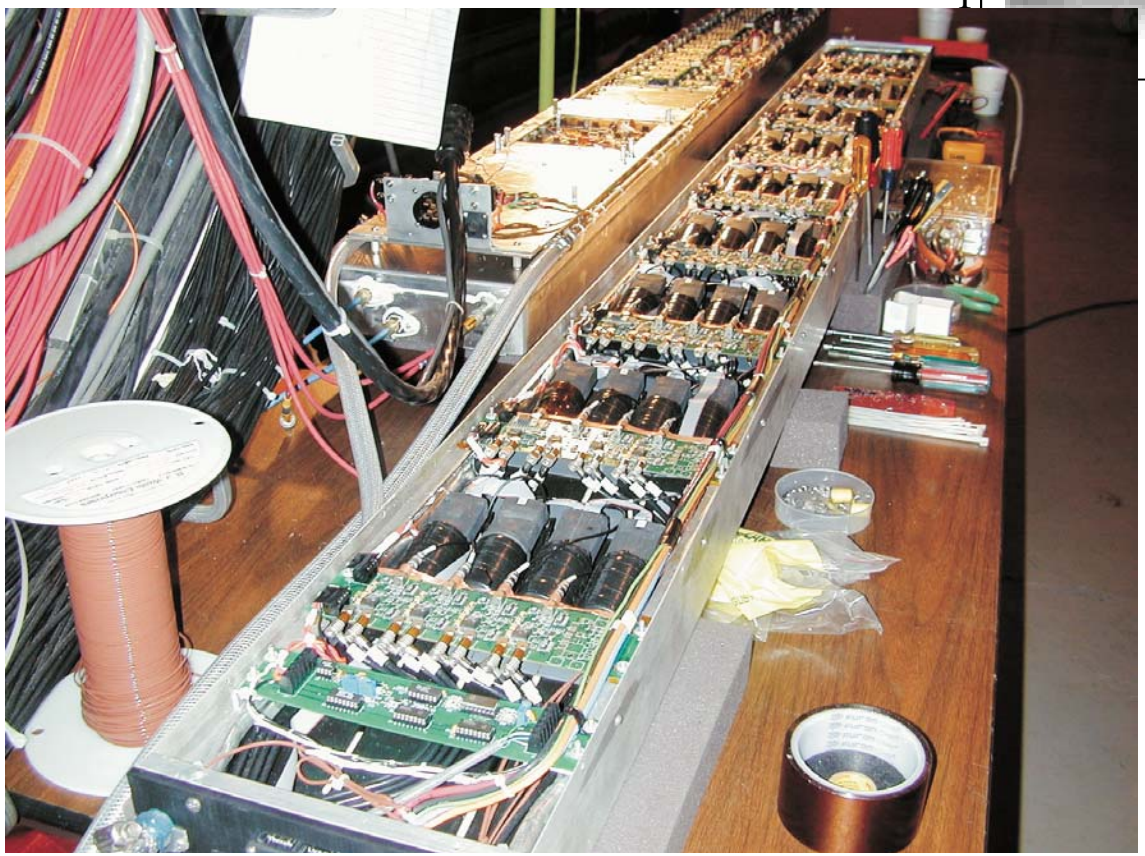
pVPD east for run-4 (view NW)

TOFp

third run, again no major changes planned
41 slats, $\Delta\eta \sim 0.9$

run-2 auau central, ~2 hits/unit-η/event





calibrations code done

embedding/efficiencies still a WIP...
run-2 auau central (~1.8M matches)
run-3 dau minbias (~0.48M matches)

tray now under maintenance in WAH...

will move 1 slot CW to sector 20 center

NIm paper accepted

TOFr (run-3)

28 MRPCs on 2 HV busses
6 F/T plates close the box & separate FEE layer
read out 72 chs into camac via TOFp DAQ
slewing by (amplified) ADC

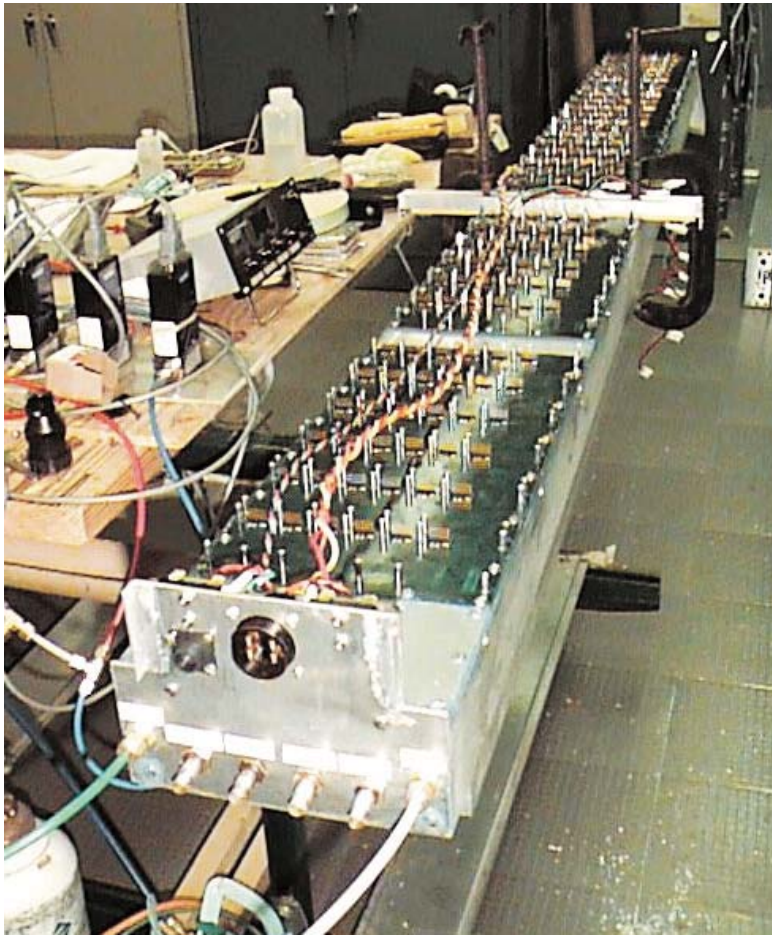
several calibrations and efficiency simulations exist

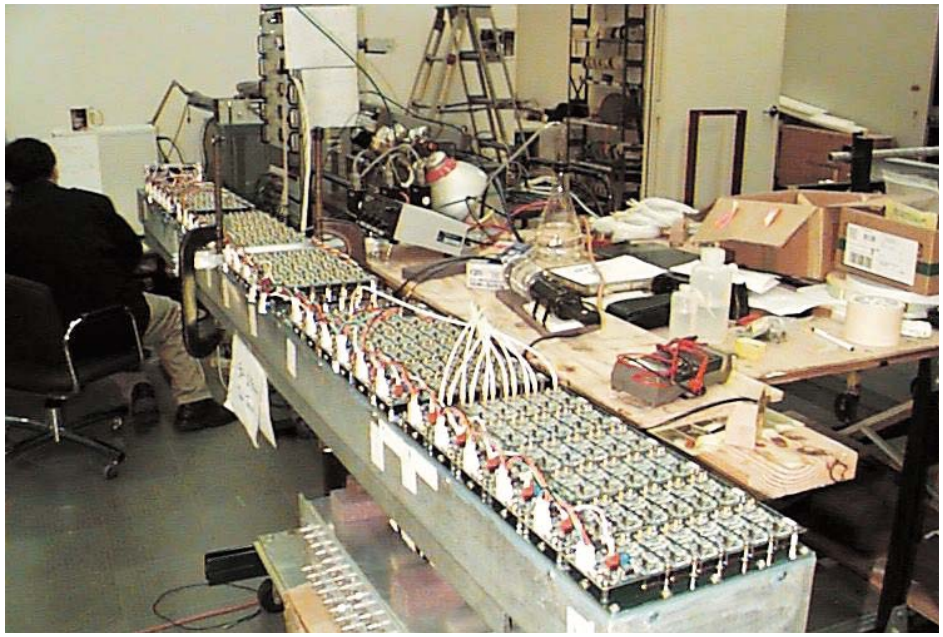
stop resn ~85 ps in dAu

pT PRL...
- being referee-reviewed
- major boost to TOF proposal

electron, K*, etc analyses in advanced stages too!

working toward common “match tree” for TOFr and TOFp
- simple/consistent application of efficiency #s
- comparison of different calibration strategies





TOFr' (run-4)

24 MRPCs on 1 HV bus
the FEE layer also closes the box ("TFEEp")
    TTST layer generates camac inputs...
read out 72 chs into camac via TOFp DAQ
    slewing again by (amplified) ADC

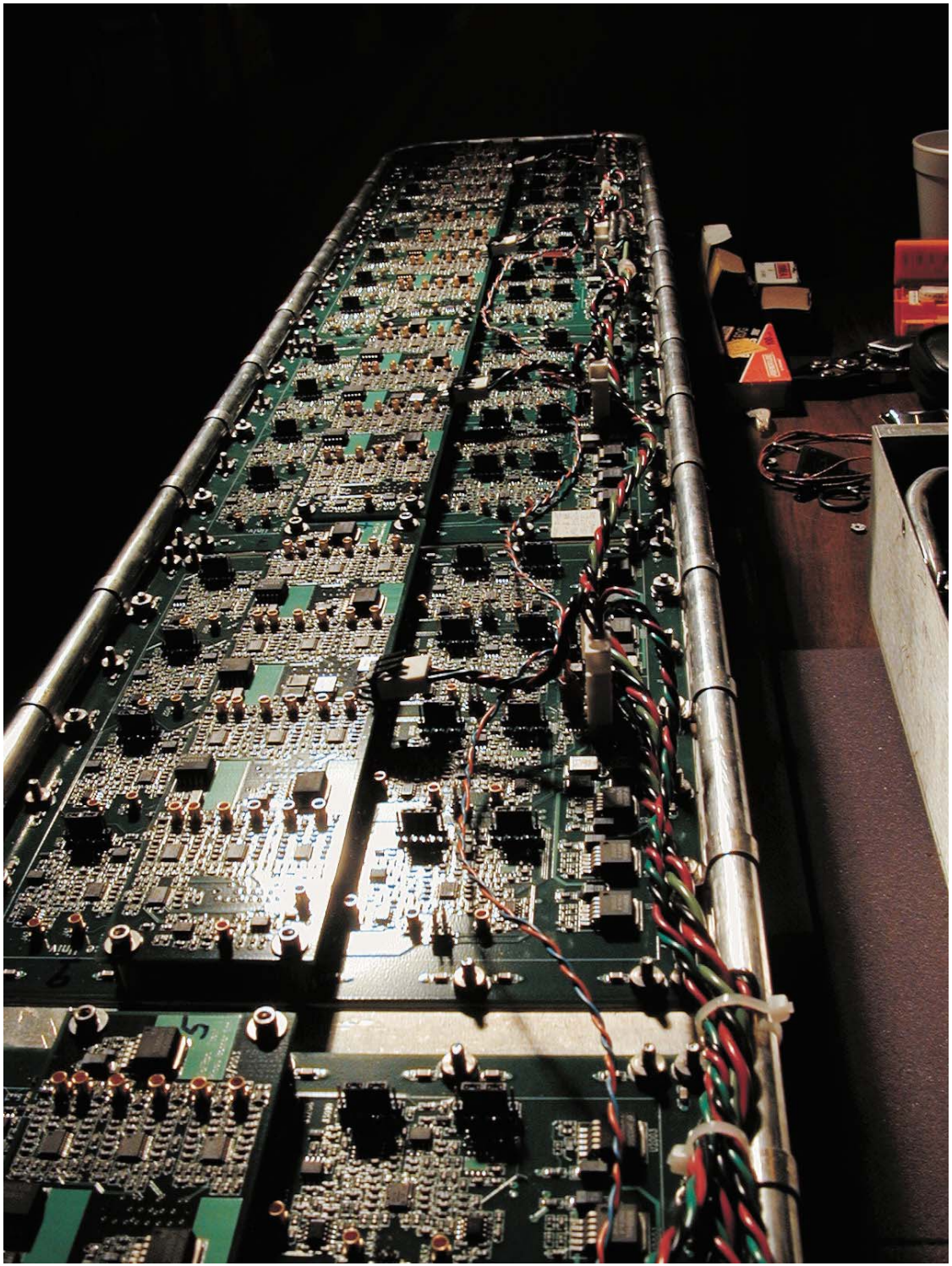
includes 20 MRPCs from TOFr plus
    4 new MRPCs (USTC&Tsinghua)

1. vastly simpler/saner mechanical design
    shoe-box style (no rails)
    PEM studs (no welding)
    PEM nuts (no tapping)
    welded feet (fewer holes in box)

2. read out 6 new TDC signals for ToT
    3 variants (1/TFEEp), 2 chs each
    compare slewing corrections
        ToT is default plan for TOF

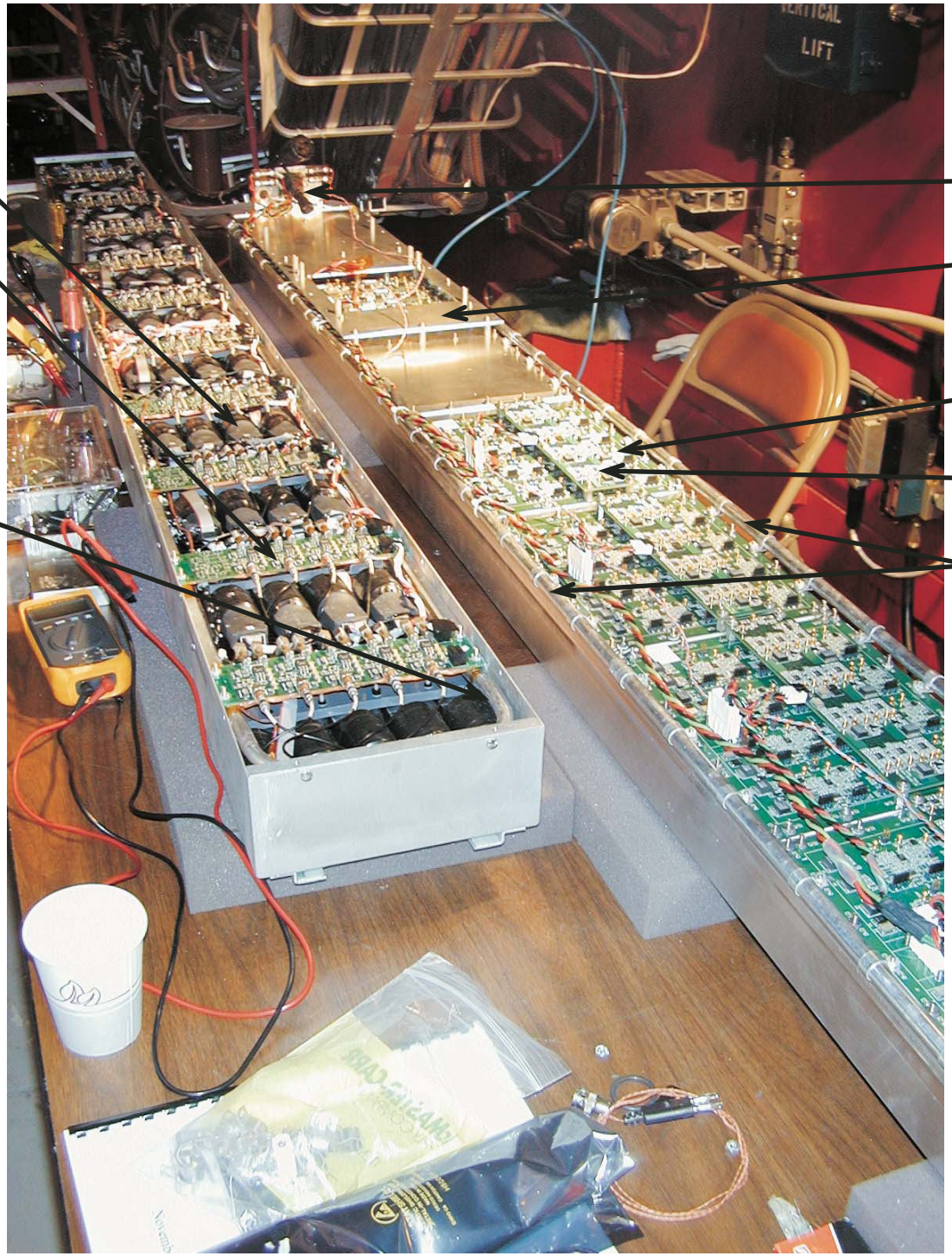
3. first realistic attempt at
integrating Jalepeno (HPTDC) w/
pVPD, DAQ, & TRG.

TFEEp radiate heat into box, heating the gas
    higher noise rates and HV currents
TOFp-style cooling loop added
thermocouples diverted from TOFp



("pigtail" signal cables not shown)

TOFp (run-4)



TOFr' (run-4)

new effort to add 48
more chs into tofp daq
- new cables
- new rack&cooling
- new crates
- new NPS
- rev. software

12 MRPCs → 20