Agenda

9:00 FGT status and plans for the next 6 months
Doug Hasell

9:25 IST status and plans for the next 6 months
Gerrit van Nieuwenhuizen

9:45 Status and work planning Miro

10:00 Status and work planning Dale

10:15 Status and work planning Jim

IST Status and Plans

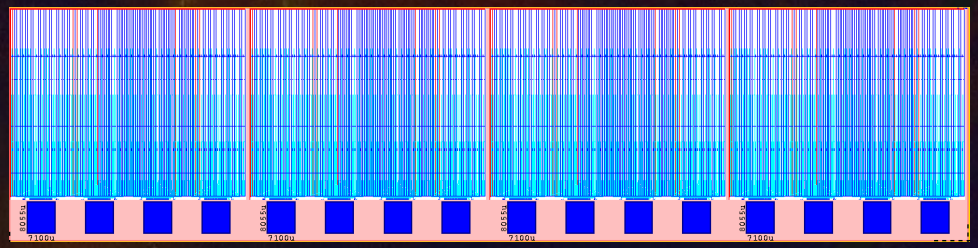
Gerrit van Nieuwenhuizen
FGT/IST-MIT meeting
Bates, October 2, 2008

IST FY08 R&D Prototyping

APV25-S1

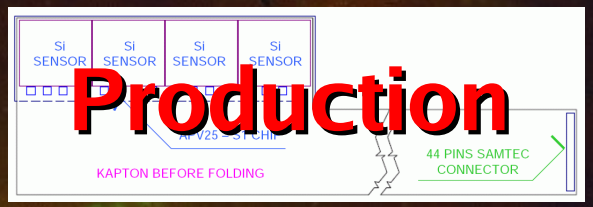
Carbon-Carbon

CF Ladder



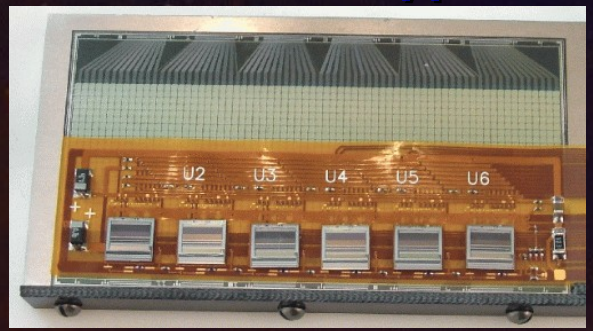
FY08 IST prototype module & ladder

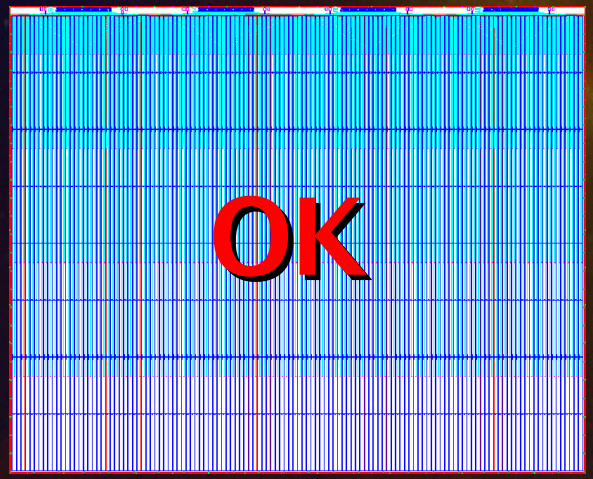
PHOBOS IV sensors



Kapton hybrid-cable

PrePrototype



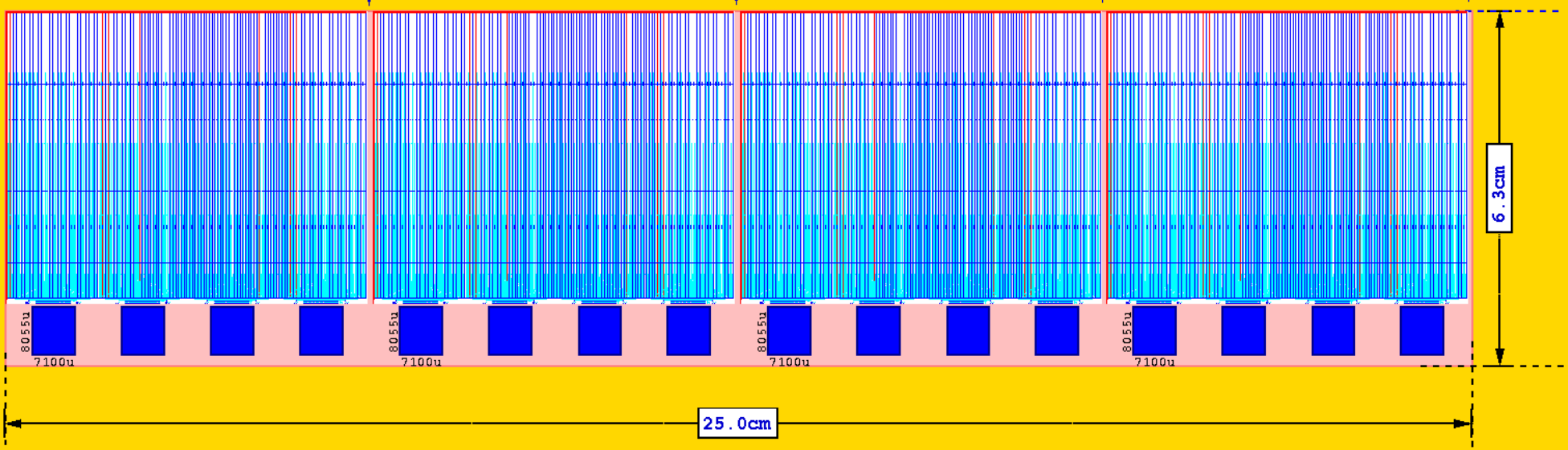


IST prototype top view

Prototype IST module using PHOBOS Inner Vertex sensors

Size sensor: 62100um x 50420um, cut-edge measurement
Bonding pads pitch: 15100um

400um gaps
between the cut-edges of the sensors
rightmost one is from cut-edge sensor to edge hybrid



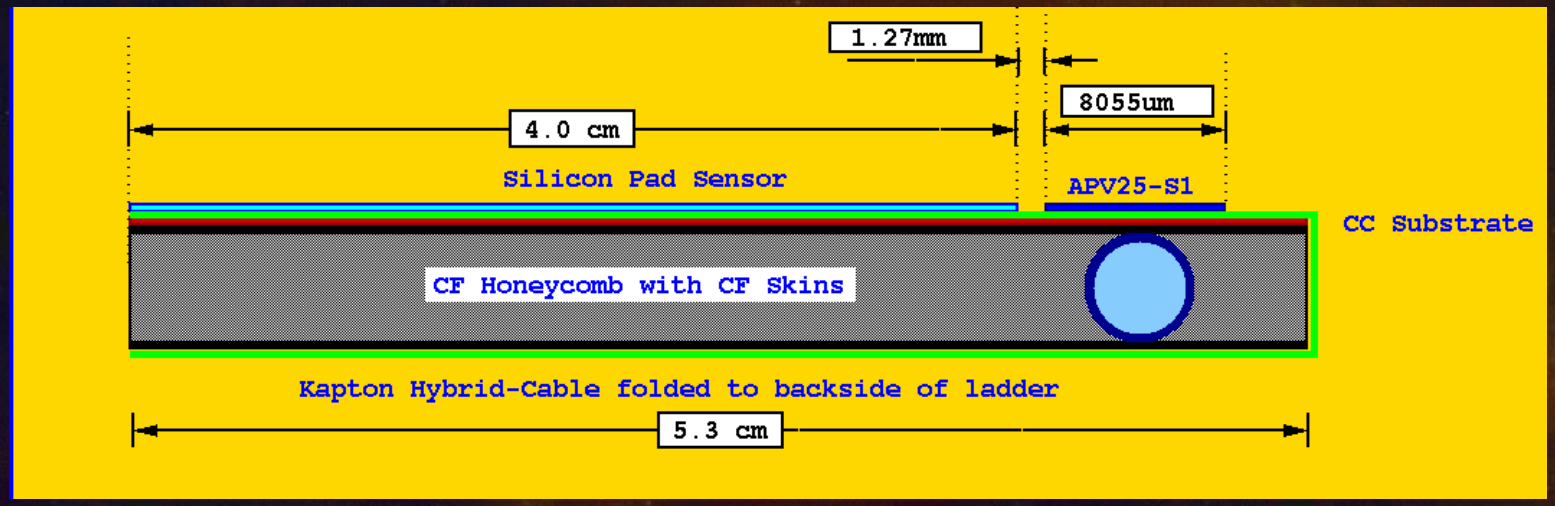
Extrapolating from Miro's preprototype kapton hybrid which had 6 APV25-S1 chips
Need about 1mm for each readout line pair (assuming 10mil/10mil line/interspacing)
Need about 0.762mm for Vss, Vd0 and Gnd lines per chip
Width needed for all the other lines is about 1.37mm per chip
Adds up to about 3.132mm hybrid width per chip
So, for 16 chips that means a hybrid width of at least 51mm. I've made it 6cm here

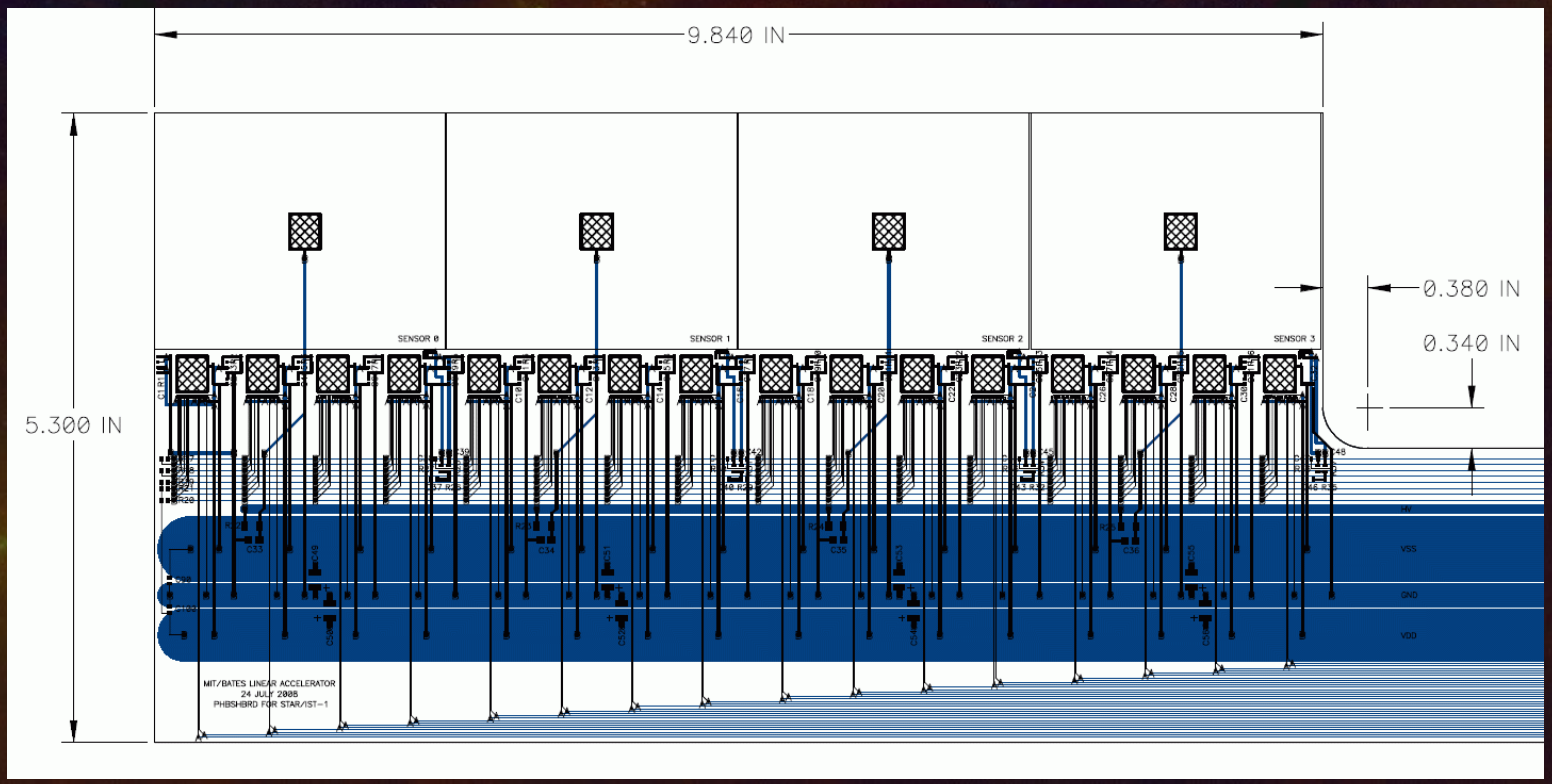
The final IST production hybrid will be 16cm and a bit long if we use 4cm x 4cm OR 8cm x 4cm sensors

IST_Prototype_Module_TopView_06Jun2008
Latest Revision: 07/02/2008
Scale: 1cm = 0.8cm

Gerrit van Nieuwenhuizen

IST prototype *amazing* folding hybrid





In production

Gerrit van Nieuwenhuizen

IST prototype Carbon-Carbon plate

Carbon-Carbon is not usable

Finding out what went wrong

In mean time got some good C-C from Eric

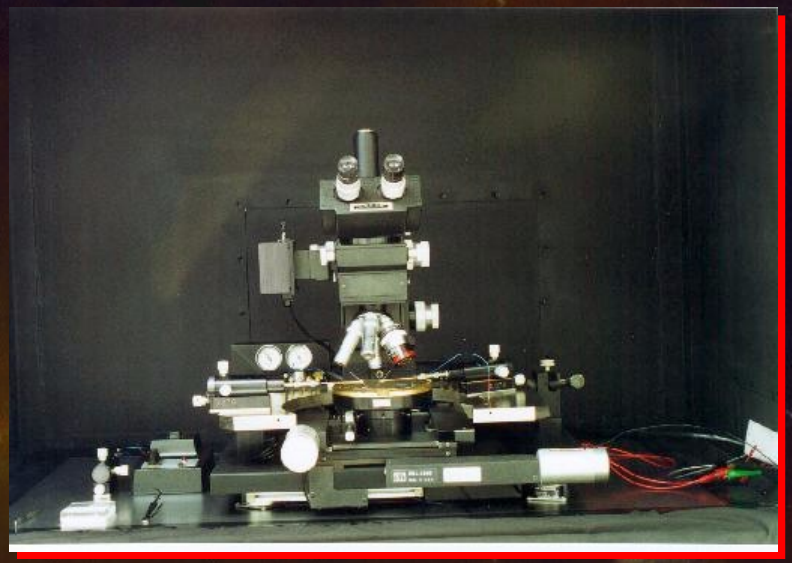
Was cut by and sent to hybrid company

Bonding machine and Probe station

Hughes wire bonder has been serviced and put back on service contract

Test bonding with 0.8 mil Al wire was successful

Test bonding on kapton is still under way



Alessi automatic probe station is, for the most part, functional again

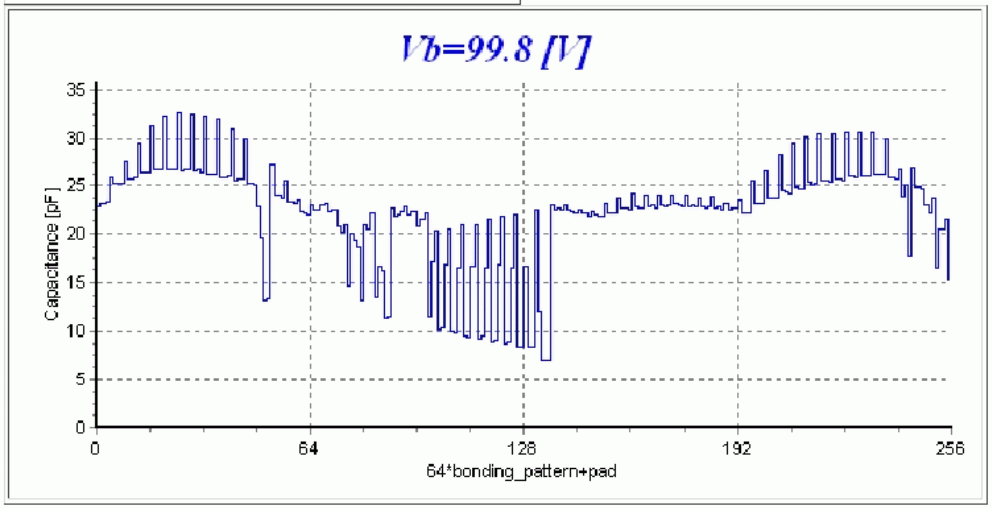
New controlling PC connected

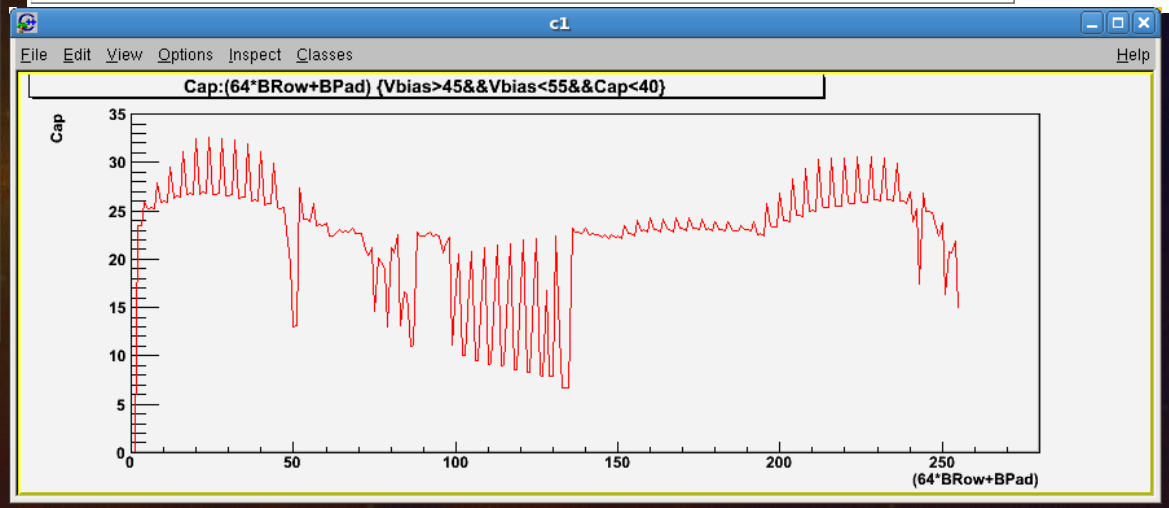
Old LabView software operational
(minus database connectivity)

Probing sensor H70078-14

Batch H70078, sensor 14 (spectrometer type 5) Capacitance Distribution

Measurement Date	7/22/1998 7:03:18 PM
Measurement Type	CV_Regular
Operator	Johannes
Operator's Comments	DEFAULT_MEASUREMENT
Temperature	22.8°C
Humidity	43 %



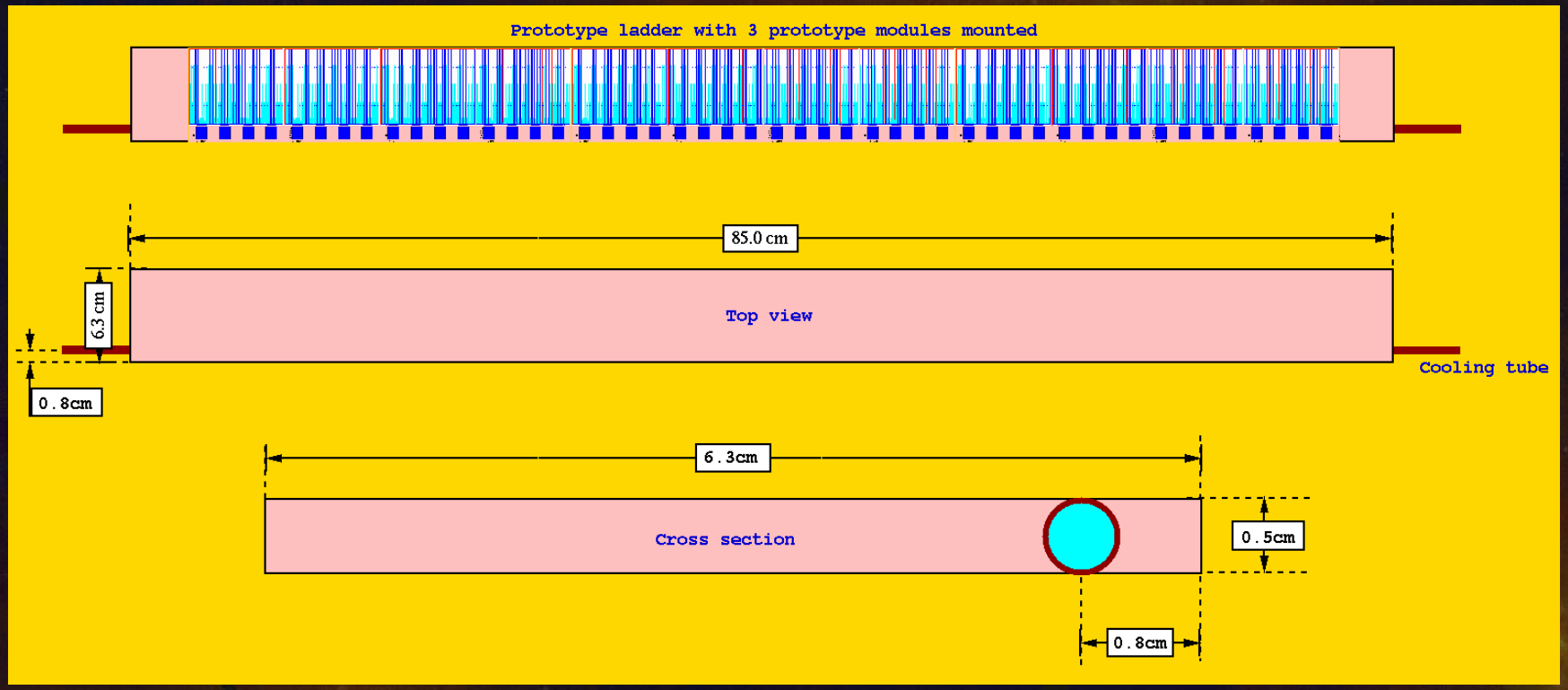


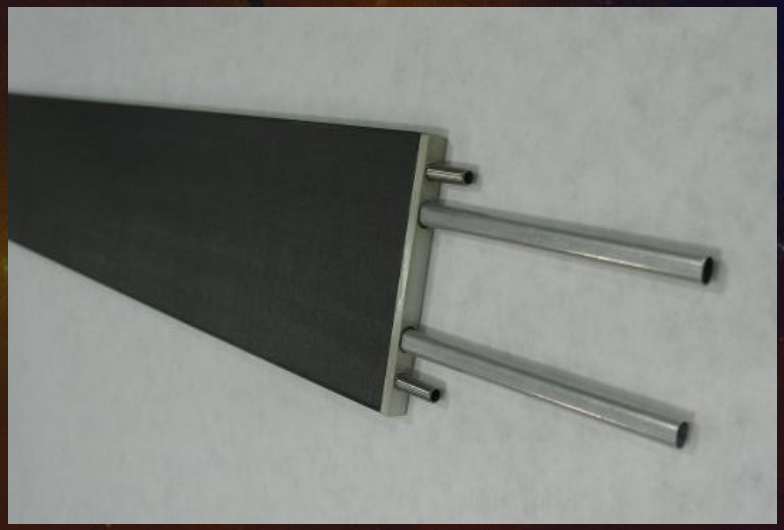
1998 CV measurement from PHOBOS DB

2008 CV measurement with refurbished probestation

Gerrit van Nieuwenhuizen

IST Ladders and Mounting





In production at LBNL

IST Electrical Tasks, Miro

Supervise hybrid production, including laminating with C-C

Supervise population of hybrids with passive components

Set up testing system for 16 APV hybrids

Test functionality of hybrids after mounting/bonding of APVs

Test functionality of hybrid after mounting of sensors

Pre-design of production hybrid, needed for sensor sizes

IST Technical Tasks, Dale

Assert full functionality of bonding machine

Wire bond pre-prototype = proof of principle

Fix remaining glitches in probe station

Mount and bond APV chips on several prototype hybrids

Mount and bond sensors on 1 prototype hybrid

Produce transport boxes for several prototype hybrids

Participate in full scale FGT thermal model
Participate in thermal tests for IST ladders

IST Mechanical Tasks, Jim

Implement IST designs in SolidWorks

Integration plan for IST in the STAR inner tracking system

Look at mounting solutions for IST ladders

Design and supervise production of ladder support jigs

Transport boxes, bonding jigs?

Full FGT thermal model?

Notes

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