

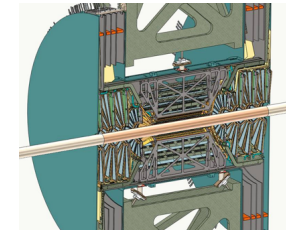
Question 1

“Are you convinced that threshold dispersion and parallel noise sources will not affect the overall noise performance of your detector and if this is a concern will you consider adding in a channel by channel baseline offset in the FPHX using a 3-bit DAC for the next round of prototyping What would be the schedule and cost impact of such a change.”

Summary:

- Agree threshold dispersion and parallel noise sources will affect our noise performance.
- Believe that this is small effect compared to the head-room we established with simulations that we have, but Will add dispersion to our simulations and verify that we get reasonable performance
- Are willing to investigate possibility with chip designers, but are not convinced at this point that this is needed or that it would fix apparent threshold dispersion measurements

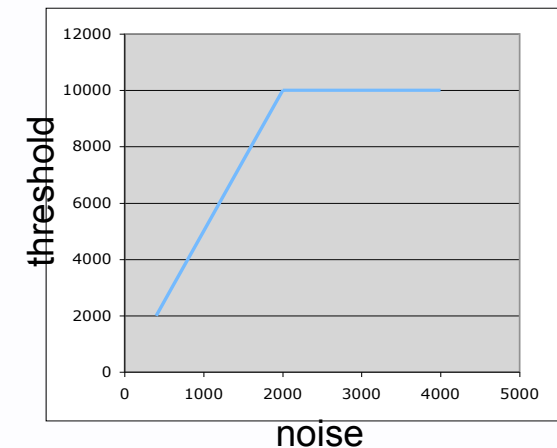
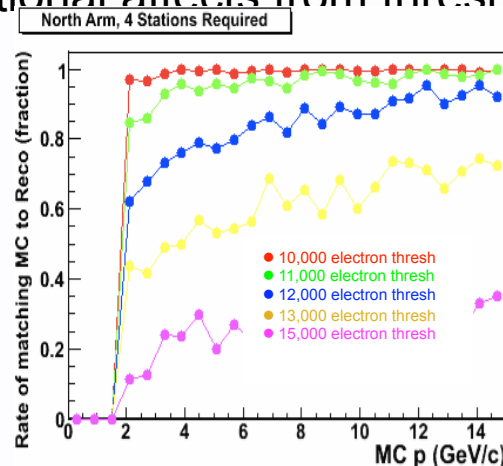
I



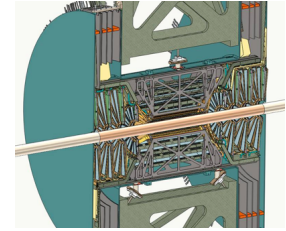
Question 1 cont'd

- We do have a reasonable amount of head room to accommodate increased noise levels and/or additional effects from threshold dispersion

Room to increase thresholds by *5 to accommodate increased noise levels OR dispersion



- Source(s) of dispersion need to be understood before we could say that a channel-by-channel baseline offset would even help
 - What are error bars on our extracted channel-by-channel thresholds?
 - What contribution comes from mis-matched injection capacitors, which introduce artificial threshold mis-matches?
 - Will spend some more time looking at real data from chips to see if we can understand the dispersion better



Question 2

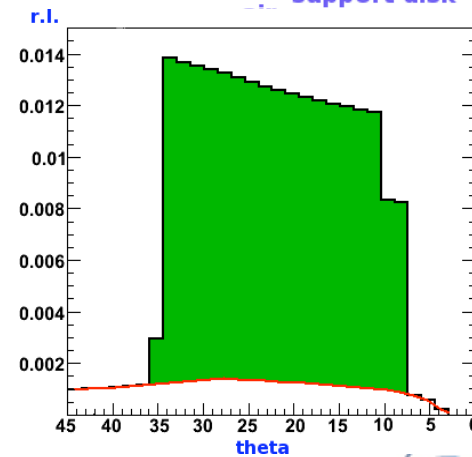
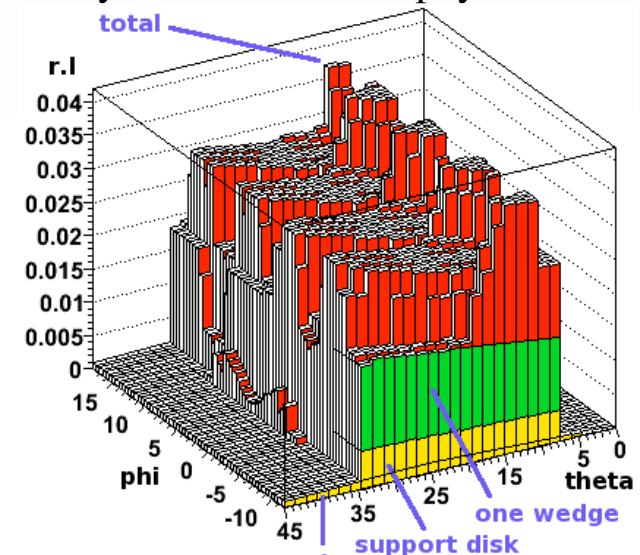
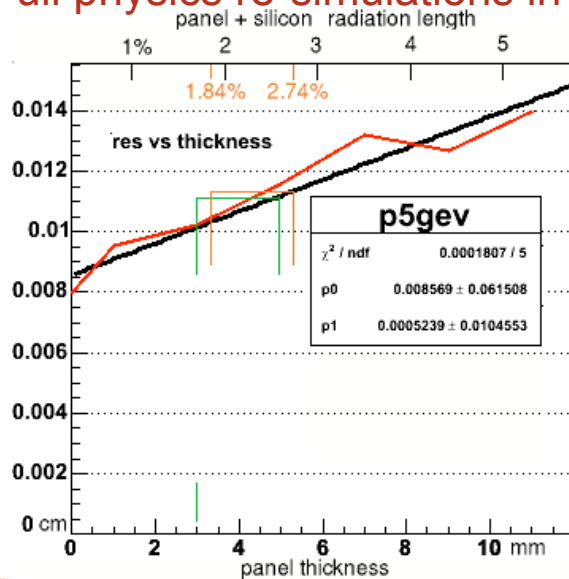
“Discuss in detail the project schedule starting with receipt of HDI, sensor and FPHX prototypes passing through all testing stages and ending with the procurement of production HDIs, FPHX chips and sensors.

I

Question 3

“What is the radiation length budget with the current design and have you calculated the physics impact?”

- Radiation length budget with the current design is given directly in plots shown in simulation talk.
- ~1.2%/wedge
- Previous specification came from desire to keep DCA resolution within ~10% of nominal value
- We are still within those specifications
- Full physics re-simulations in progress



Question 3

“What is the radiation length budget with the current design and have you calculated the physics impact?”

- Radiation length budget with the current design is given directly in plots shown in simulation talk.
- ~1.2%/wedge
- Previous specification came from desire to keep DCA resolution within ~10% of nominal value
- We are still within those specifications

