We have been discussing the PD/DAQ interface with the DAQ group lately.

Since we are currently using the low-cost FE electronics system Josh and Matt have proposed as the costing model for DUNE FD, it would be good to check in with them to understand the available communications protocols.  Matt, Josh, can your system easily communicate with the DAQ as Dave requests below?

Also—  I pass these questions along to the PD electronics working group because all of the FE systems currently being considered/designed would need to be aware of these protocol needs.

Finally—  How will we settle the data rate question?  It would seem to me that a meeting at FNAL would be helpful, but I am not sure how many of us will be there.  I will—  I arrive Monday night, and leave Friday morning.  Perhaps we could arrange a meeting sometime Sunday?

hello,

at the EB mtg today I did not raise any comment on the PD requirements for lack of time and this gives me the opportunity to share with you all

what is my personal view on these - in particular on req. #12:

- for sure  Light yield is commonly used to characterize PD systems,  but with the underlying assumption that the LY is uniform across the PD volume.

  In our LArTPC case - due to the geometry constraints of the PD active surface (only behind the APA planes) - this is assumption is far to be true.

  In my opinion therefore a “dry” LY value (0.5 PE/MeV at the cathode) makes little sense. To make more sense a LY spec should be

  accompanied by the spec/requirement of the acceptable range of uniformity for the LY value.

 Without this indication, i think it is difficult to establish how threshold on background can affect physics signal.

Yea, I have generally disliked a fixed "light yield" requirement for the same reason. For the NDK requirement, light yield at the CPA (or rather, minimum light yield in the volume) is probably the appropriate metric, but for supernova events it is more complicated. One might phrase it as LY > 5 PE/MeV for X% of the volume or something along those lines.

-Alex

CISC and PD interface