

TDIS Meeting 10/31/17

Discussion Notes

Nilanga:

Talked about preparing his proposal... may want to go with APV chips so that he isn't viewed as having too much schedule risk in his MRI proposal (which would build the detector in 2 years).

Ed talked about the Brazilian effort... they are open to us purchasing chips from them; they are producing them now. They've developed boards for the chips already as well. ALICE is behind it. Nilanga noted that we could put ~\$100k in proposal.

Nilanga also thinks that we are lacking in digitization... digitize simulated data to show that we can do this at the very high rate. Danning has done this for SPS, similar work was also done for SoLID. Huang is available to help!

Thia - What is process? Nilanga - We send simulated data from Rachel/Marco (simulation team) to UVA team.

Ed - will the simulation have noise, etc.? Physics and electronic backgrounds, but the latter is easier (Nilanga seemed confident with it).

It would help to have an undergraduate school involved in the MRI. We discussed Hampton and JMU. Thia to contact Eric Christy to gauge interest.

Paul:

Looked at rates, 0.8 MHz/pad based on Marco's simulation, 1.4 microsec/hit or 250 ns meantime max between hits, tune-able with smaller pad sizes in high rate region

A wiki is set up for the meetings!

Ed:

- a 20 MHz clock is available...

He will get more information for the MRI from the Brazil group and send along to Nilanga.

Dipangkar:

The LAC tubes have been replaced, sides closed and sealed, no light leaks, will start testing soon. All of the PMTs with signals missing have been replaced (30 tubes).

Target - talked to Yuriy in Hall B to see what they have. The Swiss company can't make anything smaller than 50 microns, but there are other options!

Marco:

Will look at digitization, contact Rachel for coordination

Bogdan:

Asked about designer time? Nilanga doesn't need it for the MRI.... But of course will eventually. Bogdan worried about exit window, other details, arranging magnet on the pivot. Thia agreed to look into getting some manpower.

Rachel's talk: [see talk]

Some questions... tracks are generated along entire target, but at any angle isotropically

The requirement is that a proton must enter the rTPC somewhere along its track

#samples determined by geometry #strips) only

Jixie gets lower efficiency with his simulation... hers doesn't include tracking efficiency

Bogdan would like to see distribution of protons for kaon experiment - a request to the simulators to do this

Nilanga also mentioned about space charge issues in the gas volume - will it change the local electric field (studied at ALICE) - can we also study this with Magboltz perhaps?