/FV 1/10/2020

The FST group has been asked to evaluate the goals, benefits, and resources needed of installing and testing a prototype segment of the Si FST in situ at STAR. I believe we should write a short document that outlines pro and cons for installing a FST segment in the STAR detector either east or west platforms.

I invite comments and suggestions on this. You can send them to the list, or to me/Zhenuy privately and we will gather comments and thought into a document that we should discuss in one of the upcoming meetings this month.

Some questions to consider are listed here.; other to consider are welcome.

What can be learned specifically by in-beam measurements?

- In terms of electronics readout and DAQ in-beam is not needed (Gerard)

What resources (people, material, time) is needed to set this up?

What resources will be available to digest the data taking in such setup?

What can be learned over and above checking the prototypes in the lab setup's at UIC and BNL?

What might be learned that could lead to changes for the final setup?

What is needed for such setup?

Modules, to readout rack
Grey cable, connection box
Purple cables.
Temporary cooling
Stand to hold module(s); lighttight box
Setting of modules ahead of install
Slow control (even simplistic for HV control, and monitoring)

Technical comments:
Gerard:
Not clear the grey cable can reach East platform; I had already asked John to measure the path length to either platform before Christmas.
On DAQ:
Yes I will do some further firmware work, but I think it has no impact on the prototyping either cosmics or in STAR, and nothing needed as far as test data to inform the firmware work. The systems are already ready enough to run I believe.

Mainly I need to clean up some loose ends from IST, the controls for timing and, hopefully, for NTIMBINS, can be improved, and perhaps some rate improvements, perhaps some bugs still to resolve. I'll

get after this work later this summer, I expect.

BTW all the ARC-II & ARM modules that we would need for a test run at STAR are already installed in the racks. I do not know about the ISEG PS modules for bias, I don't remember if they are there or elsewhere e.g. in Prithwish's lab. We should use those to run at STAR, if they will be the plan for final FST.

/fv: All ISEG are in the racks on platform, apart from one borrowed for the lab.