

Welcome and SBS news

Experiment E12-15-006

C. Keppel and B. Wojtsekhowski

12:15 **Physics Updates 30'**
Speaker: Wally Melnitchouk (Jefferson Lab)

12:55 **TPC design status 25'**
Speakers: Nilanga Liyanage (University of Virginia), Dr. Kondo Gnanvo (University of Virginia)

13:30 **DAQ and trigger requirements 20'**
Speaker: Paul King (Jefferson Lab)

13:55 - 14:10 Coffee

14:10 - 15:55 Section II

14:10 **SAMPA chip and test stand plans/status 20'**
Speaker: Ed Jastrzembski

14:35 **Simulation update: rate estimations 20'**
Speaker: Marco Carmignotto (Jefferson Lab)

15:00 **Simulation update: kaon TDIS resolution 20'**
Speakers: Rachel Montgomery, Dr. John Annand (University of Glasgow)

15:25 **TPC tracking 10'**
Speaker: Dr. Jixie Zhang (UVA)

15:40 **Target test plans 10'**
Speaker: Dipangkar Dutta (Mississippi State University)

15:55 - 16:10 Coffee

16:10 - 17:50 Section III

Convener: Marco Carmignotto (Jefferson Lab)

16:10 **LAC refurbishing update 15'**
Speaker: Dipangkar Dutta (Mississippi State University)

16:30 **HERMES RICH status: thoughts on threshold counting 15'**
Speaker: Andrew Puckett (JLab)

16:50 **Particle identification with transition radiation tracking 15'**
Speaker: Dr. Yulia Furletova (JLAB)

17:10 **nDVCS with the mTPC 20'**
Speaker: Eric Fuchey

The PAC43 report

- **Issues:**
- While the committee is excited about the physics possibilities of this experiment and impressed by the boldness of the proposal, the PAC is concerned about the technical risk inherent in running the **RTPC** at cryogenic temperatures and the **costs of the high channel count** necessary to overcome the high occupancies necessary to achieve the luminosity goals.
- The interpretation of the data must assume a dominant contribution from the Sullivan process; moreover, as such data are related to a product of the desired pion structure function and the pion flux, their **interpretation has to rely on models for the pion content of the nucleon**. While this might not affect the determination of the functional shape of the pion structure function, it might affect its normalization. Such an issue has to be carefully addressed.

The PAC43 report

Sensitivity, particularly to the low momentum protons in the deuteron measurement, requires very low amounts of material in front of the RTPC as well as high luminosity. This drives the **aggressive design of the target/RTPC system** which are proposed to run at cryogenic temperatures in order to maximize the target density while eliminating thermal insulation between the target and detector volume.

Recommendation: C1 conditional approval for 27 days of running

We recommend that the collaboration seriously consider the tradeoffs in physics reach vs. reliability inherent in the cryogenic design and that **the laboratory convene a rigorous technical review** of the resulting optimized design before going forward with construction of this experiment.

TDIS major news

- mTPC configuration for the proton arm
 - 10 times shorter drift time!
- DAQ based on advanced front-end
- MRI for mTPC project

- TDIS processes are in future EIC

SBS major news

- GMn is in the Hall A plan for 2020
 - including 48D48 and HCal
 - Including BigBite with five GEM chambers
 - GEnRP approved for 4.5 GeV² during GMn
 - additional 8+ GEM chambers
- Many SBS news will be discuss during next two days, please join the SBS meeting
- The kaonTDIS proposal was approved

Electron arm of TDIS

- 48D48 magnet at 12 degrees, large solid angle. Now is ready for installation
- Large GEM tracker. Fully constructed by UVa. Now is under commissioning.
- LAC – in progress, MSU
- Cherenkov counter – in progress, UCon
- Trigger logic – talk by P. King

Proton arm of TDIS

- MC – was advanced by Marco and Rachel
- Magnet – was transferred from UVa to Hall A
- RTPC – was replaced by mTPC, MRI
- DAQ – DREAM chip was replaced by SAMPDA
 - direct contact with developers
- Calibration of mTPC – by using $D(e, en)p$: HCAL

Target of TDIS

- Temperature (78 K is not cryo!); gradients
- Straw and windows – require R&D
- Circulation of gas – could be analyzed numerically

Some of concerns (to be revised today)

- mTPC – GEM operation in 47 kG axial field, ion flow.
- Target – urgently needs progress with R&D.
- Progress with MC for the full apparatus.
- Gas vessel design/tests.
- Plan for tests of critical items of mTPC.
- Solenoid stray field aspects (also forces with SBS).