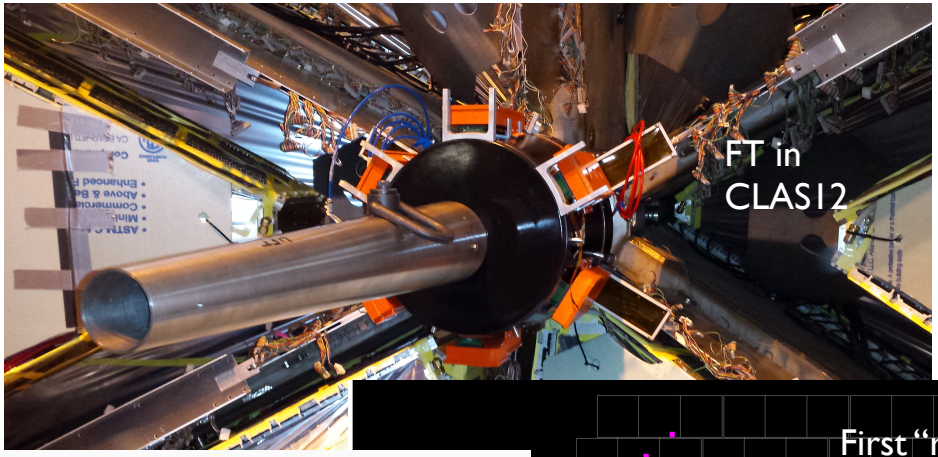
CLAS Collaboration Meeting

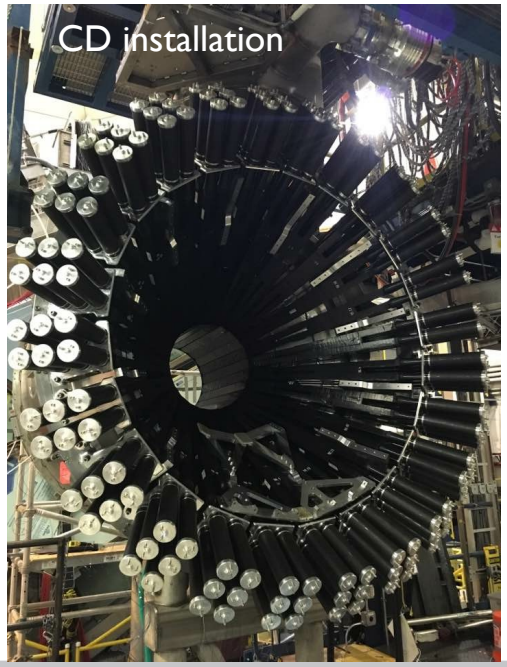
October 3-6, 2017

Outline

- Events since last meeting
- Preparations for upcoming runs
- New CLAS publications
- Collaboration business and membership issues
- User Group announcements
- Meeting agenda

Since the last meeting…





Jefferson Lab
Thomas Jefferson National Accelerator Facility

MESSAGE FROM THE DIRECTOR

Sept. 28, 2017
SUBJECT: 12 GeV CEBAF Upgrade Project Completion

It is a particular honor to report that the Department of Energy has formally approved Critical Decision 4, Approve Project Completion, for the 12 GeV CEBAF Upgrade Project. This confirms full project completion and grants approval for the start of operations.

My sincere congratulations to the entire team on this very significant achievement. It is a tribute to the hard work, dedication, and skill of everyone involved in the Upgrade across the Laboratory. In addition, the strong support of the Office of Nuclear Physics and the Thomas Jefferson Site Office have been critical to the Project's success, as has the support and enthusiasm of Jefferson Lab's User community. I hope you all take pride in your contributions to the 12 GeV Upgrade Project. Thank you!

Now, onward to the 12 GeV Science program!

Stuart

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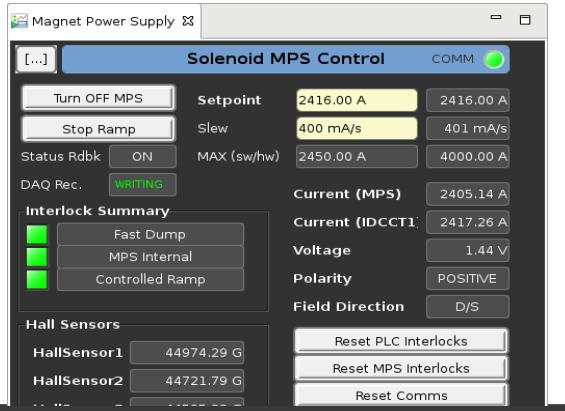


PAC 45

- PAC meeting on July 10-14, 2017
- One new proposal, one run group proposal (ALERT), one run group addition and two LOIs
- Dedicated session in the afternoon

Proposal/LOI	Title	Contact Person	Status
PR12-17-006	Electrons for Neutrinos: Addressing Critical Neutrino-Nucleus Issues	Or Hen	C2
PR12-17-012	Partonic Structure of Light Nuclei	Zein-Eddine Meziani	A-
PR12-17-012A	Tagged EMC Measurements on Light Nuclei	Raphael Dupre	
PR12-17-012B	Spectator-Tagged Deeply Virtual Compton Scattering on Light Nuclei	Whitney Armstrong	
E12-12-002A	Near threshold J/psi photoproduction and study of LHCb pentaquarks with CLAS12	Stepan Stepanyan	Run Group A addition
LOI 12-17-001	Study of J/ψ Photoproduction off deuteron	Y. Ilieva	Endorsed
LOI 12-17-002	Search for a ϕ-N Bound State at Hall B	H. Gao	Endorsed

Ready for Science Review

Scope:

(A) Review the readiness of the "CLAS12 First experiment" effort to coordinate the CLAS collaboration in the task of producing first rate science in course of and following the data taking period, and be ready for expedient analysis and result publications (this includes both understanding the detector and having the simulations and reconstruction software in place for physics.)

(B) Review the readiness of the effort to operate and commission all systems, providing the on-line monitoring and controls, trigger system, and the readout of all detector and ancillary systems.

(C) Review the readiness of the calibration effort to use the scheduled engineering run for optimizing the detector responses. This effort must be prioritized to support the CLAS12 First experiment effort in the physics run immediately following the engineering run.

- September 25-26, 2017
- Review Committee Members: E. Smith (co-chair), S. Stepanyan (co-chair), K. Griffioen, B. Hess, K. Joo, D. Lawrence, B. Zihlmann

Outcomes:

- Positive feedback on ongoing already accomplished work and preparation efforts
- Valuable suggestions for areas that require attention and further work
- Prioritized task list being built to optimize remaining work

Upcoming Runs

- Engineering run:
  - December 4-17 at 10.6 GeV
  - January 12-27 at 10.6 GeV and possibly lower pass energy
- First Experiment:
  - February 5 to March 22 at 10.6 GeV
- See https://www.jlab.org/exp_prog/experiment_schedule/ for details
- Dedicated talks on runs preparation and organization and discussion session in the afternoon

- Shift schedule generated according to CLAS rules and available at https://www.jlab.org/Hall-B/shifts/
- In addition, need help for:
  - Detector experts-on-call duties:
    - Presently counts as service work
    - Proposal to account for this in the shift allocation for the Institution for the next run period
  - Offline shifts (counts for service work)

New CLAS papers

- 4 new publications since last Collaboration Meeting
- 4 submitted to the journal
- 12 in the pipeline:
  - 3 in Collaboration-wide review
  - 6 in Ad-Hoc review
  - 3 Ad-Hoc review committees being formed

Papers published since June

Paper ID	Paper Title	Lead Author	Contact Person	Reference
2017-03	Beam-Target E Asymmetry for $\gamma n \rightarrow \pi^- p$ in the N* Resonance Region"	D. Ho	A. Sandorfi	Phys. Rev. Lett. 118, 242002 (2017)
2017-02	Measurements of $ep \rightarrow e' \pi^+\pi^- p'$ Cross Sections with CLAS at 1.40 GeV < W < 2.0 GeV and 2.0 GeV^2< Q^2< 5.0 GeV^2	E. Isupov	K. Hicks	Phys. Rev. C 96, 025209 (2017)
2017-04	Differential Cross Section Measurements for $\gamma n \rightarrow \pi^- p$ Above the First Nucleon Resonance Region	P. Mattione	D. Carman	Phys. Rev. C 96, 035204 (2017)
2017-05	Photon Beam Asymmetry Σ in the Reaction $\gamma p \rightarrow p\omega$ for E_γ=1.1.52 to 1.876 GeV"	P. Collins	B. Ritchie	Phys. Lett. B 773, 112 (2017)

Submitted papers

Paper ID	Paper Title	Lead Author	Contact Person	Target Journal
2016-10	Determination of the Proton Spin Structure Functions for $0.05 < Q^2 < 5$ GeV^2 Using CLAS	R. Fersch	R. Fersch	PRC
2017-01	Measurement of the Differential and Total Cross Sections of the $\gamma d \rightarrow K^0\Lambda$ Reaction within the Resonance Region	N. Compton	K. Hicks	PRC
2017-07	First Exclusive Measurement of Deeply Virtual Compton Scattering off ^{4}He: Toward the 3D Tomography of Nuclei	M. Hattawy	N. Baltzell	PRL
2017-08	Measurement of the Helicity Difference E in $\omega \rightarrow \pi^+\pi^-\pi^0$ Photoproduction	Z. Akbar	V. Crede	PRC

Collaboration-Wide Review

Paper ID	Paper Title	Lead Author	Contact Person	Target Journal
2017-06	Semi-Inclusive π^0 target and beam-target asymmetries from 6 GeV electron scattering with CLAS	S. Jawalkar	K. Griffioen	PLB
2017-09	Measurement of Unpolarized Cross Sections and Polarized Cross Section Differences for Deeply Virtual Compton Scattering (DVCS) on the proton at Jefferson Laboratory with CLAS, at $0.1 < x_B < 0.58$, $1.0 < Q^2 < 4.8$ GeV^2 , and $0.09 < -t < 2.0$ GeV^2	N. Hirlinger Saylor	N. Hirlinger Saylor	PRC
2017-10	Measurement of the beam asymmetry Sigma and the target asymmetry T in the photoproduction of omega mesons off the proton using CLAS at Jefferson Laboratory	P. Roy	V. Crede	PRC

With Ad-Hoc Committee

Paper Title	Lead Author	Contact Person	Run Group
Beam Spin Asymmetry of ep → epη in the Deep Inelastic Regime	A. Kim	A. Kim	e1f
Hard exclusive pion electroproduction at backward angles with CLAS	K. Park	K. Park	e1-6
Photoproduction of Scalar Mesons at CLAS	S. Chandavar	K. Hicks	g12
First time measurement of Ξ^- polarization in photoproduction	J. Bono	L. Guo	g12
Study of Color Transparency in ρ^0 Electroproduction off Nuclei	L. El Fassi	L. El Fassi	eg2
Ultrafast nucleons in asymmetric nuclei	M. Duer	O. Hen, L. Weinstein	eg2

Committee being formed for:

- two-pion electroproduction by G. Fedotov (e1e)
- Double spin asymmetry at low Q2 on the deuteron by K. Adhikari (eg4)-Fast Track
- Two-kaon photoproduction by S. Lombardo (g11)

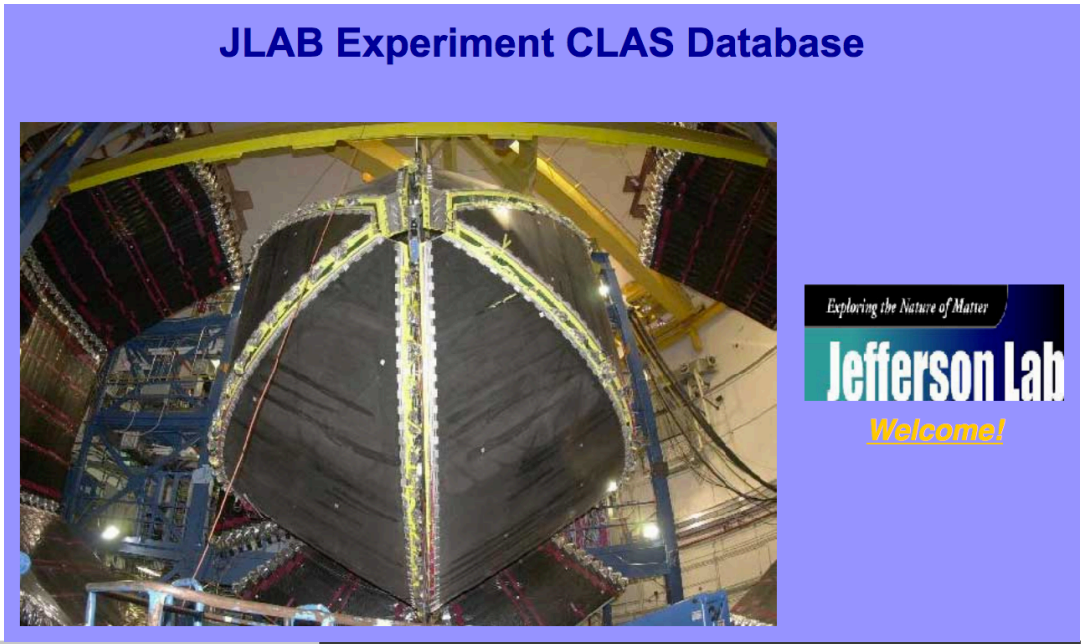
CLAS Physics Database

- Designed to stored experimental data obtained by CLAS Collaboration since 1998 on measured observables such as cross-sections, polarization asymmetries and structure functions
- Any experimental data set resulting from analysis of CLAS data should be sent to CLAS Physics DB at the time of submission to journal/arXiv
- Use the submission form available at

  http://clas.sinp.msu.ru/cgi-bin/jlab/db.cgi

Data sets from recent (2017) publications still missing

Please submit the relevant data sets to the CLAS Physics Database ASAP



Limited membership

From the CLAS Collaboration Charter

C. LIMITED MEMBERSHIP

Physicists who have an interest in and plan to work on a small fraction of the CLAS or CLAS12 proposals, or CLAS Approved Analyses (CAA), may be recommended for limited membership by a spokesperson for those particular proposals or CAA's for which his/her contribution appears to be crucial.

1. Recommendation for limited membership must be in writing and submitted to the Chairperson of the Coordinating Committee by a spokesperson for a proposal or CAA. All other spokespersons of that proposal or CAA must be informed.
2. Any individual recommended for limited membership must be approved by a four-fifths vote of the Coordinating Committee.
3. A limited member will have no voting rights and may be included as an author only on the papers which result from those proposals or CAA's for which he/she has been approved for limited membership.

- Limited membership originally created to allow for example theorists contributing to the interpretation of CLAS data to be authors of the related paper
- Applied also to experimentalist interested to specific experiments or analyses
- Proved to be beneficial for the Collaboration:
  - Extension of CLAS physics scope
  - New analyses and publications not planned based on the originally approved program
- Should always be connected to CLAS/CLAS12 proposals or CAA with clear definition of limited member role
- Membership committee to monitor limited members activity: revision of charter requiring the sponsor to report periodically

Thesis projects and students involvement

From the CLAS Collaboration Charter

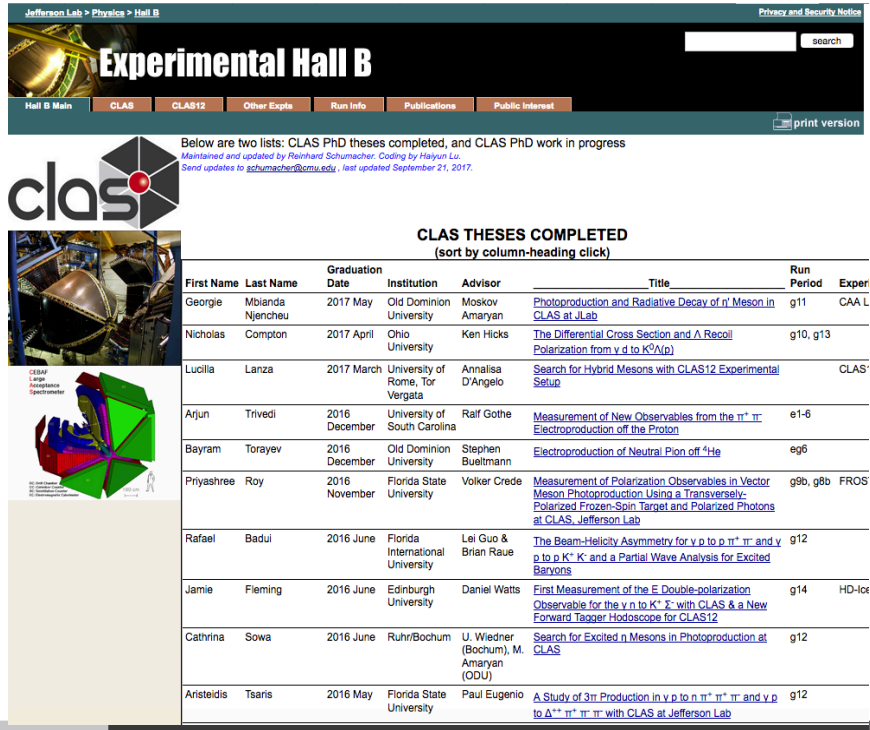
II. TERM MEMBERSHIP

B.1. A full collaboration member who supervises a graduate student who is assigned a thesis project based on CLAS or CLAS12 instrumentation and/or experiments is expected to designate him/her as a term member of the CLAS Collaboration.

XI. THESES

When a part of the CLAS or CLAS12 activity is to become the thesis work of a student, the student's thesis advisor will so inform the Chairperson of the Coordinating Committee in writing. The Chairperson, or a delegate, will maintain a list of active thesis projects.

- Charter articles intended to protect students, allow them to be listed as authors on publications and avoid conflicts in the assignment of thesis projects
- Requires action from the supervisor:
  - Email to CLAS Chair and thesis DB manager for the thesis project
  - Request for term membership through CLAS database https://www.jlab.org/Hall-B/general/memb/applyterm.html
- NEW:
  - Form with list of required actions from supervisor/student will be provided to supervisor/student upon notification to CLAS Chair
  - CLAS students/post-docs forum (see https://clasweb.jlab.org/wiki/index.php/CLAS_Term_Wiki)



Proposed CLAS Charter change

The proposed change is to Section II.B.4 of the charter (excerpt below). Change "six months" (crossed out) to "no less than three months" (in red).

II.B TERM MEMBERSHIP

A physicist, whatever his/her position, a postdoctoral researcher or a graduate student is eligible for term membership while he/she is engaged or working on CLAS or CLAS12 instrumentation and/or experiments.

…

4. Term members may be authors on CLAS publications after successful completion of an initial probationary period (of typically ~~six months~~ no less than three months). The Membership Committee decides whether a new member has fulfilled a suitable level of service work for the Collaboration during this period to become eligible for co-authorship.

…

Reasons for the proposed change:

- Membership Committee endevours to review probationaries on a cycle consistent with the Collaboration Meetings. Therefore a three month period would be more appropriate.
- Six months can be a substantial portion of contracted time without recognition of service work and beneficial access to publication record building. A PhD student, particularly from European Institutes, can have only three years funding. Many Post-Doc contracts can be one or two years and the above argument similarly applies.
- Often supervisors do not encourage or initiate Term Membership applications in a timely manner. Individuals on Probation can already have a substantial level of service work behind them. Consideration after three months is more appropriate.
- The proposed change to the Charter does not affect the Membership Committee's role in reviewing probation and requiring any extension of time if deemed necessary. It would however allow the real-world practices of the Committee to be less constrained by the Charter.

Vote closing at 12 pm today!

User Group announcements

- JLAB User Group Meeting 2018 scheduled for June 18 to 20, 2018

- Satellite meeting at the DNP meeting in Pittsburgh:
  - after this meeting the Board will be soliciting user input on about the usefulness of this at the APS/ DNP meetings considering the funding provided from JLab and JSA for the organization of these meetings

Meeting Agenda

- Morning talks dedicated to Lab, Hall B and Accelerator status
- Physics talk from JPAC/Theory division and CLAS Collaborators
- Session on PAC 45 proposal and LOIs
- Engineering and First Experiment runs
- Physics WG parallel session and Joint session on CLAS12 high level analysis
- Software tutorial on Friday afternoon
- Membership Committee meeting over lunch break today
- Reception tonight!

Many Thanks

to

Jerry Gilfoyle