CLAS Collaboration Meeting

November 13-16, 2018

Outline

- Events since last meeting
- Collaboration business
- New CLAS publications
- Meeting agenda

Since the last meeting…

- PAC46
- Fall run in progress
- First data processing of 10% of RG-A Spring data
- RG-A analyses and DNP presentations

PAC46 results

Proposals		**Contact**	**Days**
New RG Proposal RG-M			
C12-17-006	Electrons for Neutrinos		25.5
PR12-18-003	Studies of SRC in Nuclei using CLAS12		35
Total Beam Time approved (A rating)		Hen	**45**
RG-B Addition			
E12-12-003B	J/Psi Photoproduction off the Deuteron	Ilieva	
	Total RG-B beam time remains unchanged	Niccolai	90
LOI12–18-004	Physics with Positron Beams at JLab 12 GeV	Grames	
(Hall A, B, C)	Hall B: DVCS & 2γ-physics in e^+p/e^-p elastic	Voutier	N/A
	PAC recommends detailed coordinated full proposal		
New beam time approved for Hall B Proposals:			**45**

Proposal Count	Experiment Days	Run Groups	RG days
41	3173	11	1021

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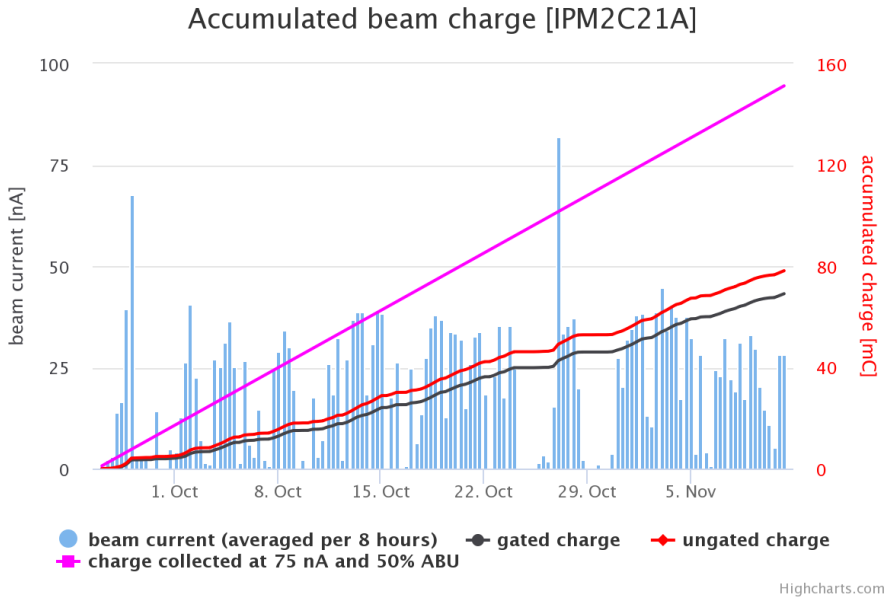

Significant improvement in online performances:

- New tracking trigger based on roads
- fADC and MM bit packing
- Data rate at 50 nA (inbending) now ~ 300 MB/s

Data taking:

- Delayed start due to difficulties in beam restoration
- RG-A will continue till after Thanksgiving, followed by RG-K
- New accelerator schedule for FY19

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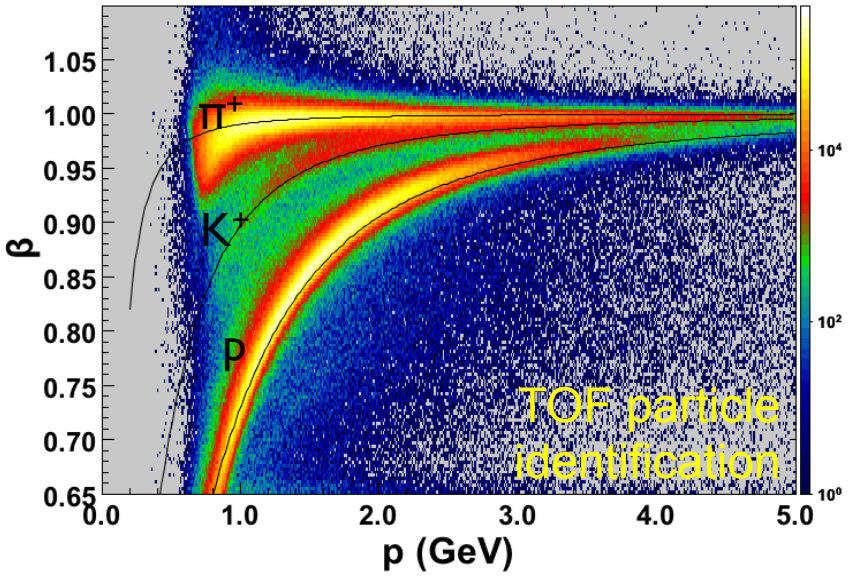
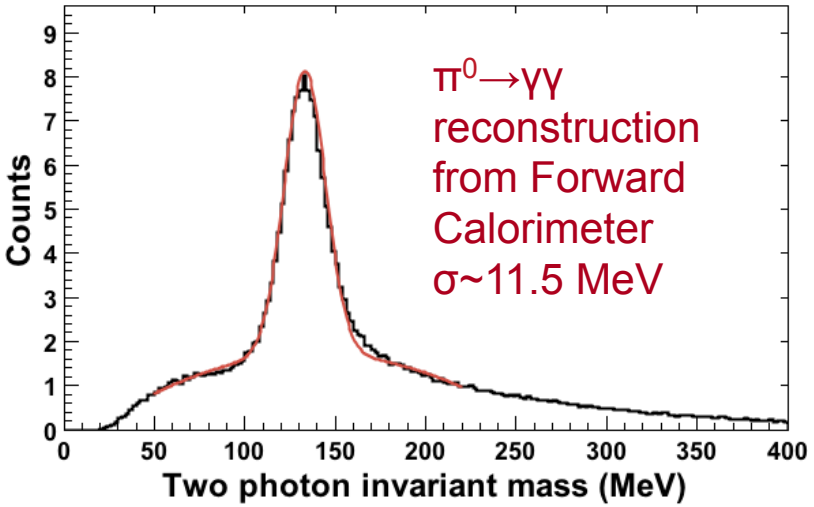


First significant amount of data calibrated, reconstructed, and skimmed:

- Full “exercise” of the data processing workflow including analyses trains
- Important input (lessons learned) to improve the process



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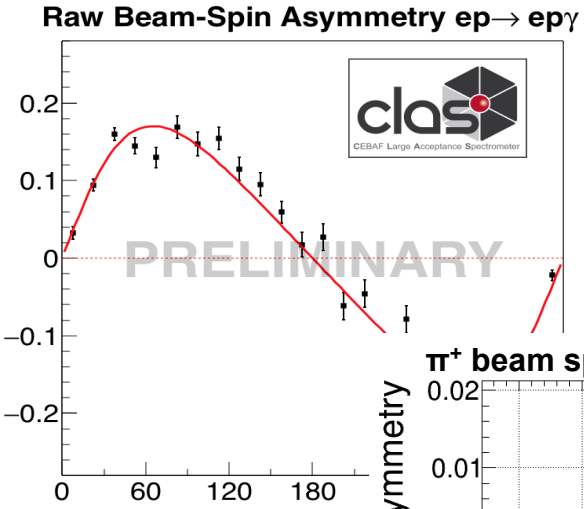
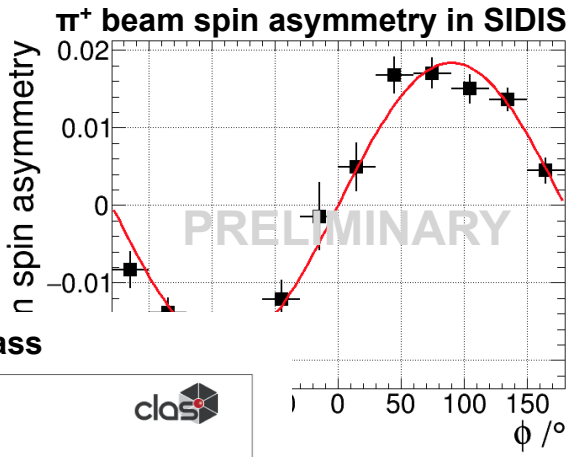
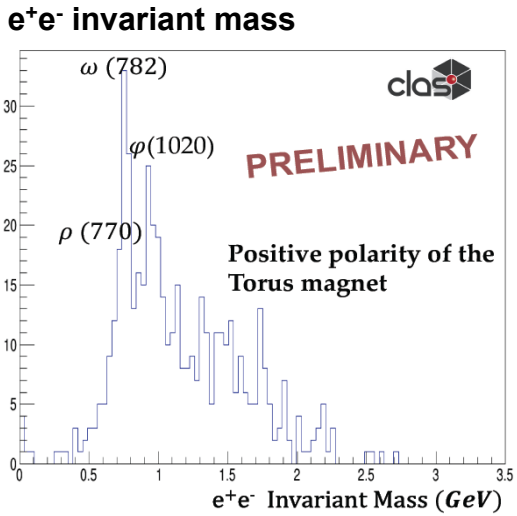






First look at physics from RG-A data:

- High potential of CLAS12 data
- Important feedback for software and reconstruction development
- Review and approval process exercised

Run Group coordination

- Run Group A/First Experiment has been the main “customer” so far…
- Multiple run groups will be active shortly: need to establish good coordination between the activities of different Run Groups for an efficient usage of available resources
  - Periodic meetings of all Run Groups to review and communicate work plans
  - Participation of Run Group representatives to CLAS12 technical WG meetings (Software, CalCom, …)
  - Common organizational structure
- First “Run Group session” on Wednesday afternoon with presentations from all Run Groups and discussion

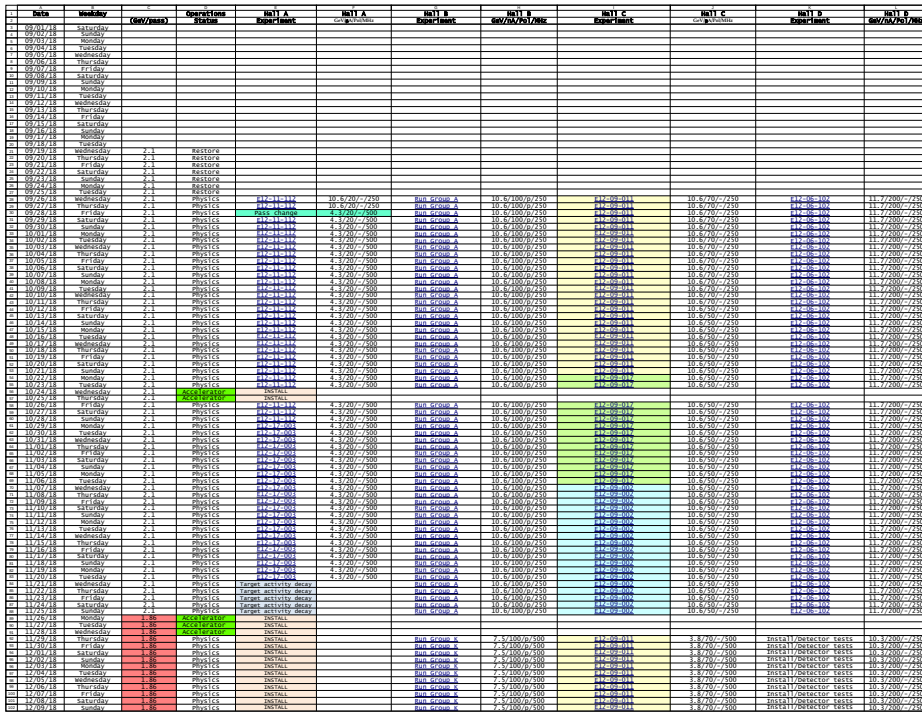
CLAS12 analyses

- Analysis of CLAS12 RG-A started for all physics sub-groups (deep exclusive processes, DIS and SIDIS, quasi-real photoproduction, nucleon structure, MesonX) and many reaction channels
- Common effort in developing analysis procedures and coordination among Physics Working Groups
- List of ongoing analyses being collected by Physics Working Groups to have up-to-date picture of collaborators interests, thesis projects, …
- First Experiment Analysis Review Committee (R. Gothe, K. Griffioen, E. Pasyuk) active in review and approval process for preliminary results at DNP 2018
- Discussion on analysis procedures and path forward at PWG Joint Session on Thursday afternoon

Updated experiment schedule

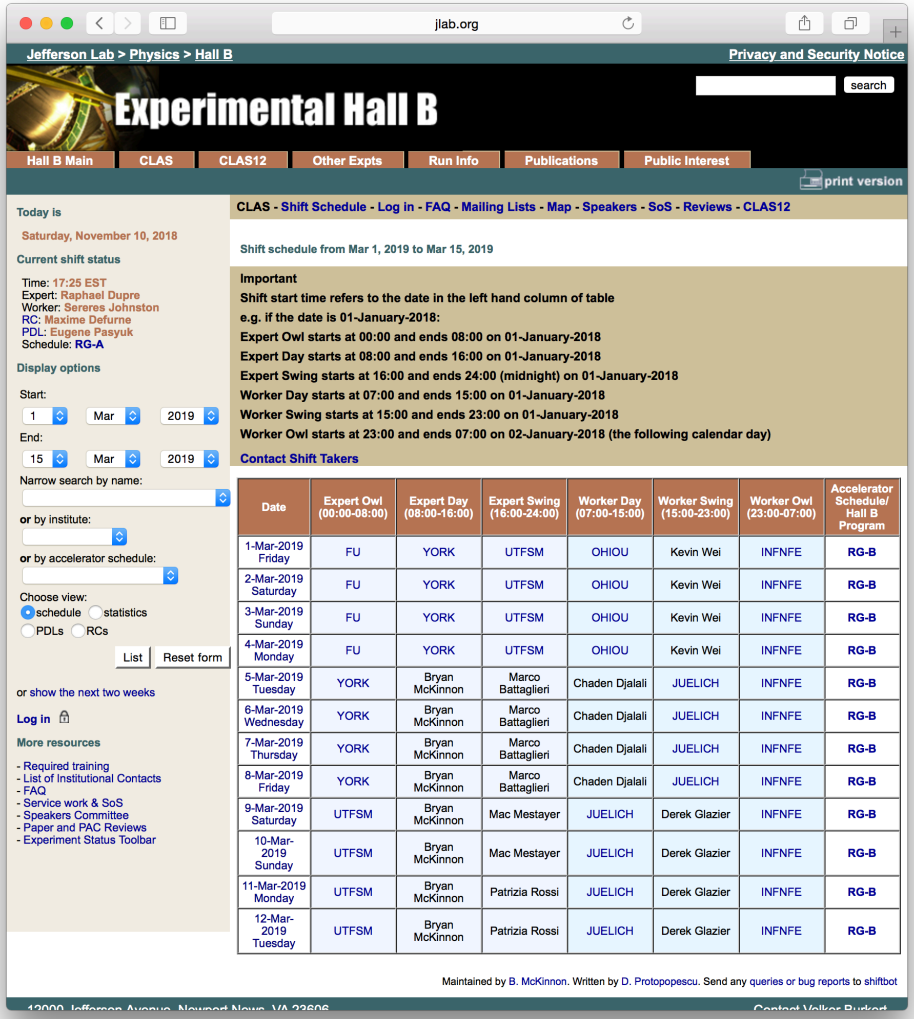
- Schedule for the 2018-2019 updated to compensate for the delayed start of the 2018 Fall run
  - Extension of 10.6 GeV running (RG-A) by 10 days in November
  - Reduction of low energy (RG-K) run in Fall 2018 to three weeks
  - 4 weeks of additional beam time at 10.6 GeV in March-April 2019 (RG-A)
  - Begin of Fall 2019 run delayed to November 1

https://www.jlab.org/exp_prog/experiment_schedule/



Shift schedule

- Current shift allocation covers up to March
- New shift schedule for the March-December 2019 period to be generated shortly
- Special “exemption” to Russian Institutions (see next slide)



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Experimental Hall B

search

Hall B Main | CLAS | CLAS12 | Other Expts | Run Info | Publications | Public Interest

print version

Today is
Saturday, November 10, 2018

Current shift status
Time: 17:25 EST
Expert: Raphael Dupre
Worker: Sereres Johnston
RC: Maxime Defurne
PDL: Eugene Pasyuk
Schedule: RG-A

Display options
Start: 1 Mar 2019
End: 15 Mar 2019
Narrow search by name:
or by institute:
or by accelerator schedule:
Choose view: schedule statistics
PDLs RCs
List | Reset form
or show the next two weeks
Log in

More resources
- Required training
- List of Institutional Contacts
- FAQ
- Service work & SoS
- Speakers Committee
- Paper and PAC Reviews
- Experiment Status Toolbar

CLAS - Shift Schedule - Log in - FAQ - Mailing Lists - Map - Speakers - SoS - Reviews - CLAS12

Shift schedule from Mar 1, 2019 to Mar 15, 2019

Important
Shift start time refers to the date in the left hand column of table
e.g. if the date is 01-January-2018:
Expert Owl starts at 00:00 and ends 08:00 on 01-January-2018
Expert Day starts at 08:00 and ends 16:00 on 01-January-2018
Expert Swing starts at 16:00 and ends 24:00 (midnight) on 01-January-2018
Worker Day starts at 07:00 and ends 15:00 on 01-January-2018
Worker Swing starts at 15:00 and ends 23:00 on 01-January-2018
Worker Owl starts at 23:00 and ends 07:00 on 02-January-2018 (the following calendar day)

Contact Shift Takers

Date	Expert Owl (00:00-08:00)	Expert Day (08:00-16:00)	Expert Swing (16:00-24:00)	Worker Day (07:00-15:00)	Worker Swing (15:00-23:00)	Worker Owl (23:00-07:00)	Accelerator Schedule/ Hall B Program
1-Mar-2019 Friday	FU	YORK	UTFSM	OHIOU	Kevin Wei	INFNFE	RG-B
2-Mar-2019 Saturday	FU	YORK	UTFSM	OHIOU	Kevin Wei	INFNFE	RG-B
3-Mar-2019 Sunday	FU	YORK	UTFSM	OHIOU	Kevin Wei	INFNFE	RG-B
4-Mar-2019 Monday	FU	YORK	UTFSM	OHIOU	Kevin Wei	INFNFE	RG-B
5-Mar-2019 Tuesday	YORK	Bryan McKinnon	Marco Battaglieri	Chaden Djalali	JUELICH	INFNFE	RG-B
6-Mar-2019 Wednesday	YORK	Bryan McKinnon	Marco Battaglieri	Chaden Djalali	JUELICH	INFNFE	RG-B
7-Mar-2019 Thursday	YORK	Bryan McKinnon	Marco Battaglieri	Chaden Djalali	JUELICH	INFNFE	RG-B
8-Mar-2019 Friday	YORK	Bryan McKinnon	Marco Battaglieri	Chaden Djalali	JUELICH	INFNFE	RG-B
9-Mar-2019 Saturday	UTFSM	Bryan McKinnon	Mac Mestayer	JUELICH	Derek Glazier	INFNFE	RG-B
10-Mar-2019 Sunday	UTFSM	Bryan McKinnon	Mac Mestayer	JUELICH	Derek Glazier	INFNFE	RG-B
11-Mar-2019 Monday	UTFSM	Bryan McKinnon	Patrizia Rossi	JUELICH	Derek Glazier	INFNFE	RG-B
12-Mar-2019 Tuesday	UTFSM	Bryan McKinnon	Patrizia Rossi	JUELICH	Derek Glazier	INFNFE	RG-B

Maintained by B. McKinnon. Written by D. Protopopescu. Send any queries or bug reports to shiftbot

Shift Exemption for Russian Inst.

- Scientists from Russian Institutes have not been able to visit the Lab over the last 24 months because of difficulties in obtaining the visit authorization from DOE
- This affects our colleagues from ITEP and MSU (as well as many other users at the Lab) who have not and will not be able to cover their shift allocation
- Presently, there are no indications of how and when the situation may change
- Proposal from the CLAS Coordinating Committee:
  - give full exemption from shifts to both ITEP and MSU becoming effective from next shift allocation until further notice
  - increase by 50% their Service Work requirement (from 0.25 FTE/person to 0.375 FTE/person) as a compensation

CLAS Speaker Committee renewal

Renewal of CSC membership completed:

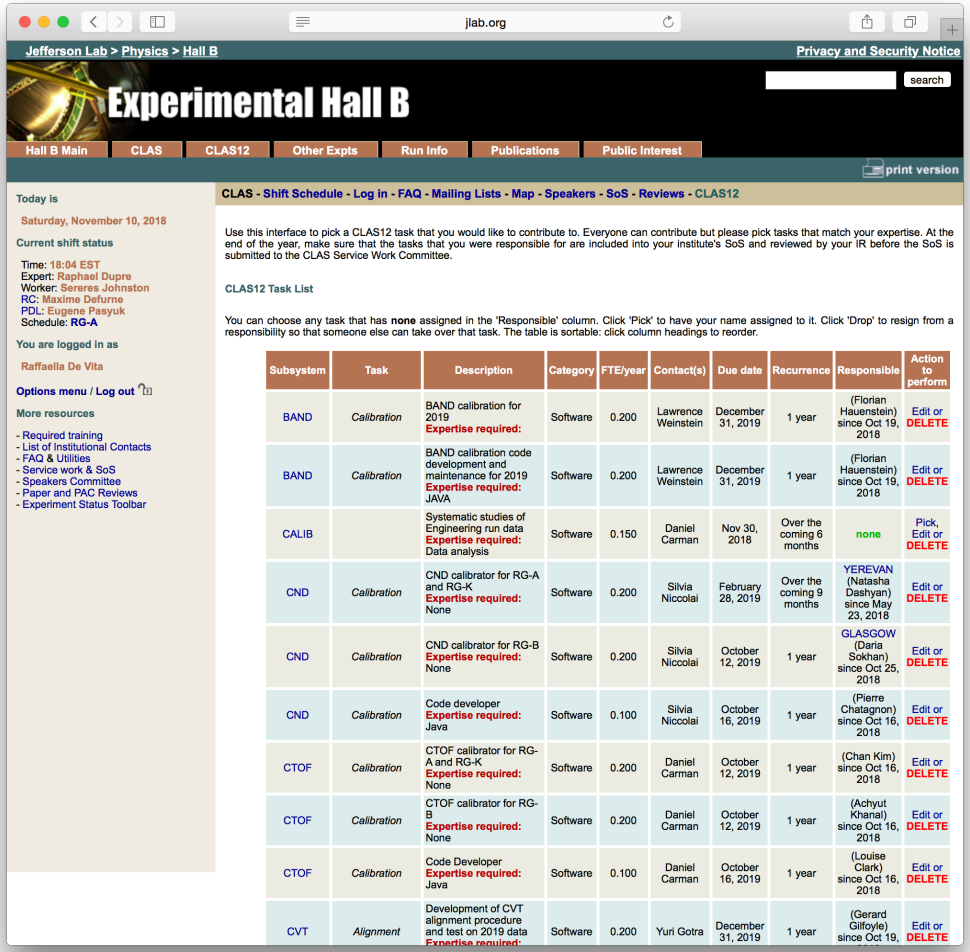
- WG representatives/alternates
  - HS: A. D'Angelo (confirmed) and L. Guo (new)
  - DP: C. M. Camacho (confirmed) and A. Movsisyan (new)
  - NP: L. El Fassi (confirmed), M. Hattawy (new)
- Members at Large:
  - At large 1: B. McKinnon (confirmed) and V. Mokeev (new)
  - At large 2: Y. Ilieva (confirmed) and Y. Prok (new)
- A. D'Angelo re-elected as Chair of the Committee
- L. El Fassi confirmed as secretary

Many thanks to the Collaborators who have completed their work as CSC members:

N. Baltzell, L. Elouadrhiri, E. Pasyuk, S. Strauch

Service Work for 2019 and beyond

- List of service work task in support of CLAS12 operation:
  - Software
  - Calibration
  - Hardware
  - Data taking and Run Group support
- Contact person defined for each task to provide all the necessary information, supervision, and final assessment
- Starting from 2019, AT LEAST half of the Service Work that each institution owes to the collaboration will have to come from tasks that are included in the CLAS12 Task List
- Deadline for SOS submission set to November 30



https://www.jlab.org/Hall-B/shifts/index.php?display=admin&task=clas12tasks

Software in the CLAS Collaboration

- Making “software” more central to the organization of the CLAS Collaboration:
  - Should the Software Working Group be one of the Collaboration bodies as defined in our Charter and Bylaws? If so, how should the Software Working Group be integrated in the Collaboration management structure?
  - Should the Collaboration nominate regularly a Software Coordinator or Liaison? If so, what should be the nomination process and how long should be the person in charge?
  - What should be the role of this person in relation to the Hall B Software Architect?
  - Should other Technical Working Groups be introduced in the Collaboration structure?

- Ad-Hoc Committee composed by D. Ireland (Chair), D. Heddle and S. Kuhn to answer the above questions and elaborate a proposal on how to integrate this in the charter/bylaws
- Presentation on Friday
- If endorsed, vote at the following meeting

New Membership Applications

Application for CLAS membership by new Institution:

- University of Brescia and INFN-Pavia presented by Andrea Bianconi

Procedure:

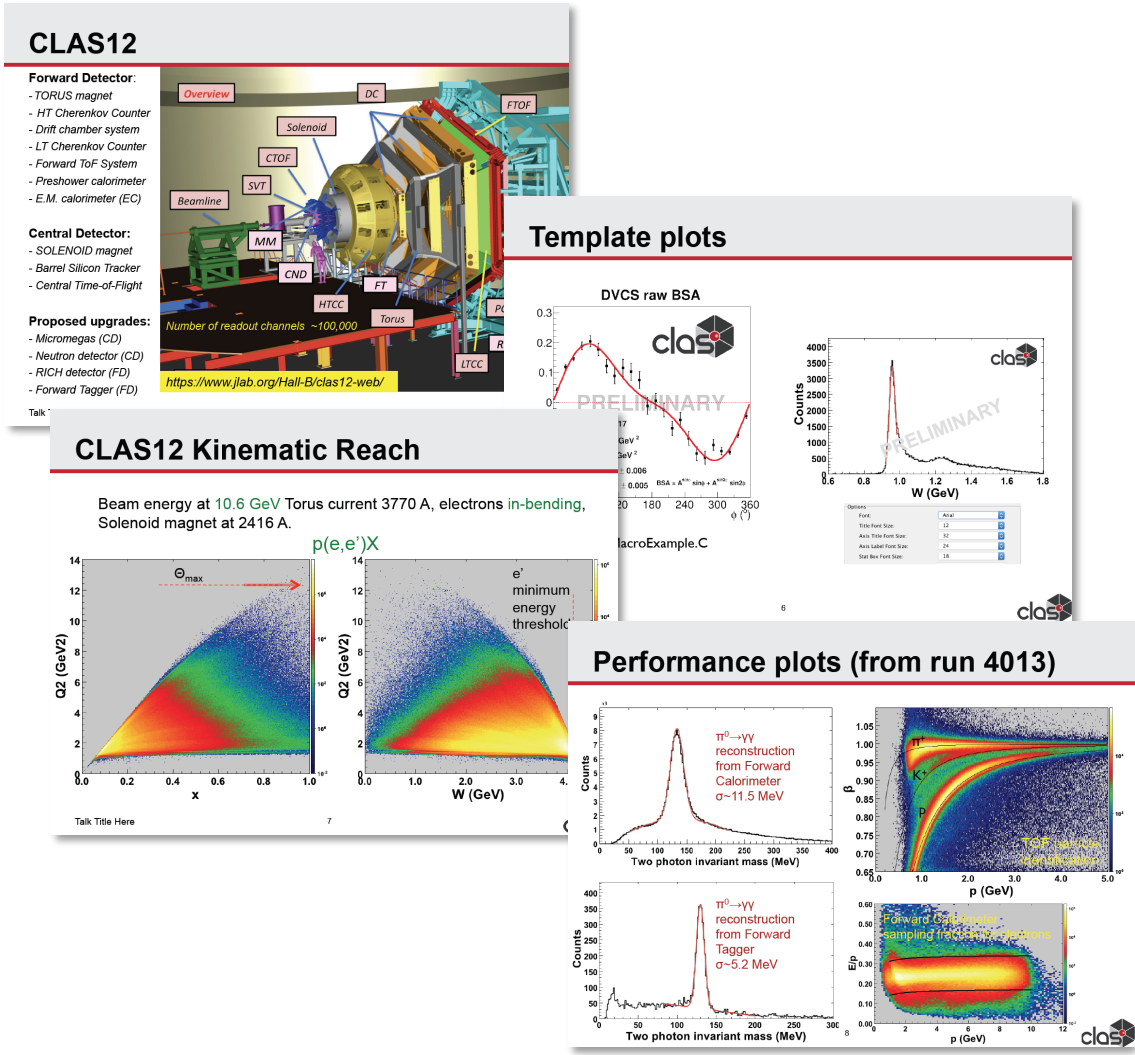
- Presentation of the group, research interests, current and future plans, software and hardware contributions, … to the Collaboration for open discussion
- Application to be discussed (and approved) by the CLAS Coordinating Committee
- Membership for scientists who are currently collaboration members will be transferred to the new Institutions
- Other scientists from the new Institutions can apply for Term membership

Student and Post-doc group

- Initiative started few years ago as an open forum for CLAS students and post-docs
  - https://clasweb.jlab.org/wiki/index.php/CLAS_Term_Wiki
  - http://groups.google.com/group/clas-students
- Goals:
  - Provide information to newcomers about the CLAS structure and rules
  - Create an environment to facilitate the exchange of information among the young collaborators
  - Identify issues affecting the work of students and post-docs
- Initiative presently being renewed:
  - Will Phelps has agreed to be the group representative which would involve re-organizing the wiki, maintaining a mailing list for the postdocs, organizing the meetings, etc.
  - First official meeting today at lunch

Template plots and slides

- Create a template for plots of CLAS12 results:
  - Standard graphics
  - CLAS logo
  - …
- Archive of “approved” plots (discussion in PWG Joint Session on Thursday)
- Create a slide template for CLAS12 presentations:
  - First examples available at https://wiki.jlab.org/clas_chair/index.php/Main_Page
  - Contest to choose final set



New CLAS papers

- 9 new publications since last Collaboration Meeting
- 5 submitted to the journal
- 6 in the pipeline:
  - 2 in the final author check phase
  - 1 in Collaboration-wide review
  - 3 in Ad-Hoc review

Papers published since July

Paper ID	Paper Title	Lead Author	Contact Person	Target Journal
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	P. Stoler	PRC
2017-14	Photoproduction of pi0 on Hydrogen using e+e-(gamma) detection mode with CLAS	M. Kunkel	M. Amaryan	PRL
2017-15	Probing High Momentum Protons and Neutrons in Asymmetric Nuclei	M. Duer	O. Hen	Nature
2018-01	Differential Cross Section for gamma d -> omega d using CLAS at Jefferson Lab	T. Chetry	K. Hicks	PLB
2018-02	Measurements of $gamma_{v} p ightarrow p' pi^{+} pi^{-}$ cross section with the CLAS detector for $0.4 GeV^{2} < Q^{2} < 1.0 GeV^2$ and $1.3 GeV < W <1.825 GeV$	G. Fedotov	G. Fedotov	PRC
2018-04	First Measurement of Xi− Polarization in Photoproduction	J. Bono	L. Guo	PLB
2018-06	Photoproduction of K+ K- meson pairs on the proton	S. Lombardo	M. Battaglieri	PRD
2018-08	Beam-Target Helicity Asymmetry E in K0Lambda and K0Sigma0 Photoproduction on the Neutron	D. Ho	R. Schumacher	PRC
2018-09	The center of mass motion of short-range correlated nucleon pairs studied via the A(e, e'pp) reaction	E. Cohen	O. Hen	PRL

Papers submitted to Journals

Paper ID	Paper Title	Lead Author	Contact Person	Target Journal
2018-03	EMC Effect and Correlated Nucleons: When One Plus One is not Two	B. Schmookler	O. Hen	Nature Physics
2018-05	Beam Spin Asymmetry of ep → epη in the Deep Inelastic Regime	B. Zhao	A. Kim	PLB
2018-07	First results on nucleon resonance photocouplings from the gamma p -> p pi+pi- reaction	E. Golovach	E. Golovach	PLB
2018-10	Study of Cascade* Photoproduction from Threshold to W = 3:3 GeV	J. Goetz	K. Hicks	PRL
2018-11	Direct Observation of Proton-Neutron Short-Range Correlation Dominance in Heavy Nuclei	M. Duer	O. Hen	PRL

Papers in review

Author check or Collaboration review

Paper ID	Paper Title	Lead Author	Contact Person	Target Journal
2018-12	Toward a Complete Experiment in omega Photoproduction on the Proton: Measurement of the Double-Polarization Observables F,...	P. Roy	V. Crede	PRL
2018-13	Measurement of Nuclear Transparency Ratios for Protons and Neutrons	M. Duer	O. Hen	PRL
2018-14	First exclusive Deeply Virtual Compton Scattering measurement off bound nucleon in ^{4}He	M. Hattawy	M. Hattawy	PRL

With Ad-Hoc Committee

Paper Title	Lead Author	Contact Person	Run Group
Study of Color Transparency in ρ^0 Electroproduction off Nuclei	L. El Fassi	L. El Fassi	eg2
Exclusive pi0p electroproduction off protons in resonance region at photon virtualities 0:4 < Q2 < 1GeV2	N. Markov	K. Joo	e1f
Exploring the Structure of the Proton via Semi-inclusive Pion Electroproduction	N. Harrison	K. Joo	e1f

From Jlab User Organization

- Mark your calendar for the next JLUO annual meeting on June 24-26, 2019.
- The board has invited you to subscribe to the new SURA mailing list using **your NON-governmental/JLab email address*** to support our Outreach (lobbying) activities such as the Nuclear Physics day on the Hill, and writing letters to your representatives. Please follow the two steps described in our wiki-page to join the list.
- The EIC steering committee has called for a kick-off Hill visit on Tuesday, Dec. 4, 2018, to convey the excitement and importance of the physics of the future facility. If you would like to participate, please contact Bernd Surrow, register through this google form, and reach out to Lamiaa El Fassi for some JSA travel support.

* It is not allowed to use Federal resources, such as you JLab email address, to call for participation in any kind of Federal lobbying events, and to lobby for federal support and funds.

Meeting Agenda

- Morning talks dedicated to Hall B, Lab and Accelerator status
- Theory talk (DVMP) and recent CLAS results
- Software session in the afternoon
- CLAS12, RG-A and Run Group session tomorrow
- Physics WG parallel session and Joined session on CLAS12 analysis
- Business meeting on Friday morning
- Membership Committee meeting over lunch break tomorrow
- Student and post/doc lunch meeting today
- Reception tonight!

Run Groups Hall B

Proposal	Physics	Contact	Rating	Days	Group	Equipment	Energy	Run Group	Target
E12-06-108	Hard exclusive electro-production of π^0, η	Stoler	B	80	139	RICH (1 sector) Forward tagger	11	A F. Sabatié	liquid H_2
E12-06-108A	Exclusive N*->KY Studies with CLAS12	Carman		(60)					
E12-06-108B	Transition Form Factor of the η' Meson with CLAS12	Kunkel		(80)					
E12-06-112	Proton's quark dynamics in SIDIS pion production	Avakian	A	60					
E12-06-112A	SIDIS Λ productiuon in target fragmentation region	Mirazita		(60)					
E12-06-112B	Colinear nucleon structure at twist-3	Pisano		(60)					
E12-06-119(a)	Deeply Virtual Compton Scattering	Sabatie	A	80					
E12-09-003	Excitation of nucleon resonances at high Q^2	Gothe	B+	40					
E12-11-005	Hadron spectroscopy with forward tagger	Battaglieri	A-	119					
E12-11-005A	Photoproduction of the very strangest baryon	Guo		(120)					
E12-12-001	Timelike Compton Scatt. & J/ψ production in e+e	Nadel-Turonski	A-	120					
E12-12-001A	J/ψ Photoproduction & study of LHCb pentaquarks	Stepanyan		(120)					
E12-12-007	Exclusive φ meson electroproduction with CLAS12	Girod	B+	60					
E12-07-104	Neutron magnetic form factor	Gilfoyle	A-	30	90	Neutron detector RICH (1 sector) Forward tagger	11	B K. Hafidi	liquid D_2 target
E12-09-007(a)	Study of partonic distributions in SIDIS kaon production	Hafidi	A-	30					
E12-09-008	Boer-Mulders asymmetry in K SIDIS w/ H and D targets	Contalbrigo	A-	56					
E12-09-008A	Hadron production in target fragmentation region	Mirazita		(60)					
E12-09-008B	Colinear nucleon structuer at twist-3	Pisano		(60)					
E12-11-003	DVCS on neutron target	Niccolai	A	90					
E12-11-003A	In medium structure functions, SRC, and the EMC effect	Hen		(90)					
E12-003B	**J/Phsi production on deuterium**	**Ilieva**	**N/A**	**(80)**					
Beam time partial sum				**765 (1555)**	**229**				

Run Groups Hall B

E12-06-109	Longitudinal Spin Structure of the Nucleon	Kuhn	A	80	185	Polarized target RICH (1 sector) Forward tagger	11	C S. Kuhn	NH_3 ND_3
E12-06-109A	DVCS on the neutron with polarized deuterium target	Niccolai		(60)					
E12-06- 119(b)	DVCS on longitudinally polarized proton target	Sabatie	A	120					
E12-07-107	Spin-Orbit Correl. with Longitudinally polarized target	Avakian	A-	103					
E12-09-007(b)	Study of partonic distributions using SIDIS K production	Hafidi	A-	80					
E12-09-009	Spin-Orbit correlations in K production w/ pol. targets	Avakian	B+	103					
E12-06-106	Color transparency in exclusive vector meson production	Hafidi	B+	60	60		11	D	
E12-06-117	Quark propagation and hadron formation	Brooks	A-	60	60		11	E	Nuclear
E12-06-113	Free Neutron structure at large x	Bueltman	A	42	42	Radial TPC	11	F	Gas D_2
E12-14-001	EMC effect in spin structure functions	Brooks	B+	55	55	Pol. LiH target	11	G	LiH
TOTAL CLAS12 run time (approved experiments)				**1466 (2118)**	**631**				

Proposal	Physics	Contact	Rating	Days	Group	Equipment	Energy	Group	Target
C12-11-111	SIDIS on transverse polarized target	Contalbrigo	A	110	110	Transverse target	11	H	HD
C12-12-009	Transversity w/ di-hadron on transvere target	Avakian	A	110					
C12-12-010	DVCS with transverse polarized target in CLAS12	Elouadrhriri	A	110					
All CLAS12 transverse target proposals				330	110				
E12-11-006	Heavy Photon Search at Jefferson Lab (HPS)	Jaros	A	180	180	Setup in alcove	2.2, 6.6	I	Nuclear
E12-11-106	High Precision Measurement of the Proton Charge Radius	Gasparian	A	15	15	Primex	1.1, 2.2	J	H2 gas
Beam time request from CLAS12 C1 experiments + non-CLAS12 experiments				**525**	**305**				
Beam time from approved CLAS12 experiments (from previous table)				**1466 (2118)**	**631**				
Beam time for Hall B experiments table 1 + table 2 (incl. 110 days of C1 approved exp.)				**1991 (2643)**	**936**				

Run Groups Hall B

Proposal	Physics	Contact	Rating	Days	Group	Equipment	Energy	Group	Target
E12-16-010	A search for Hybrid Baryons in Hall B with CLAS12	D'Angelo	A-	100	100	Forward Tagger	6.6, 8.8	K Confinement & Strong QCD	IH2
E12-16-010A	Nucleon Resonances in exc. KY electroproduction	Carman	A-	(100)					
E12-16-010B	DVCS with CLAS12 at 6.6 and 8.8 GeV	Elouadrhiri	A-	(100)					
Total Beam time of Run Group K				**100 (300)**	**100**				
E12-17-012	Partonic Structure of Light Nuclei	Meziani	A-	(35)	55	ALERT detector	2.2, 11	L	D_2, ^{4}He
E12-17-012A	Tagged EMC measurements on Light Nuclei	Dupre	A-	(45)					
E12-17-012B	Spectator-Tagged DVCS on Light Nuclei	Armstrong	A-	(45)					
E12-17-012C	Other Physics Opportunities w/ ALERT	Hafidi	A-	55					
Total Beam time Run Group L				**55 (180)**	**55**				
E12-17-006		Hen		45	45	Special target		M	Nuclear
E12-17-006A		Hen							
Total beam time of Run Group M				**45**	**45**				
Beam time of approved & C1 approved CLAS12 experiments from table 1 + table 2				**1991 (2763)**	**936**				
Beam time for Hall B experiments table 1 + table 2 + table 3				**2191 (3288)**	**1136**				

Proposal Count	Experiment Days	Run Groups	RG days
43	3288	13	1136