

# Miscellaneous News from JLAB

Zulkaida Akbar

11/7/2022

# Outline

- A brief summary of our presence at Hall B
- CLAS Membership
- Future opportunities
- Others

Our services so far for RGC at Hall B

- Provide polarized-target materials
- 3 block of shift experts
- 2 weeks of Target experts
- 4 block of shift workers
- 1 week of Run Coordinator

Remaining scheduled services

- 1 week of Run coordinator
- Couple block of shift workers
- More materials?

Folks with complete training

- Zulkaida
- Arthur
- Devin
- Anchit

CLAS Full & Term member:

- Dustin
- Zulkaida

Probation begin: Arthur

Person	Position	Institute	Proposer	Action
Hao Jiang	PostDoc	GLASGOW	Daria Sokhan	Y
Ryan Ferguson	PhD	GLASGOW	Bryan McKinnon	Y
Juan Alvarado	PhD	ORSAY	Silvia Niccolai	Y
Daniel Matamoros	PhD	ORSAY	Silvia Niccolai	Y
Arthur Conover	PhD	VIRGINIA	Dustin Keller	Y
Armen Gyurjinyan	PostDoc	INFNFR	Marco Mirazita	Y

November collaboration meeting

- Probation begins

Postpone the evaluation or service is on progress: Ishara

Person	Position	Institute	Proposer	Period	Action
Mitchell Kerver	PhD	ODU	Charles Hyde	20	Defer req.
Marshall Scott	PostDoc	ANL	Zein-Eddine Meziani	12	Y
Ishara Fernando	PostDoc	VIRGINIA	Dustin Keller	5	Defer req.
Derek Holmberg	PhD	WM	Keith Griffioen	8	Y
Gregory Matousek	PhD	DUKE	Anselm Vossen	5	Y
Niveditha Ramasubramanian	PostDoc	SACLAY	Maxime Defurne	8	Y
Alec Peck	PhD	UCR	Miguel Arratia	5	Defer. req
Carlos Ayerbe Gayoso	Research Scientist	WM	Keith Griffioen	5	Y
Mikhail Yurov	PostDoc	MISS	Lamiaa El Fassi	5	Y

November collaboration meeting

Will apply soon: Kenichi

Probation normally takes 6 month but could be sooner (3 months) or later (8 months) or very late

Person	Position	Institute	Proposer	Period	Action
Mitchell Kerver	PhD	ODU	Charles Hyde	15	Defer req.
Marshall Scott	PostDoc	ANL	Zein-Eddine Meziani	7	Defer req.
Zulkaida Akbar	PostDoc	VIRGINIA	Dustin Keller	3	Y
Derek Holmberg	PhD	WM	Keith Griffioen	3	Defer req.
Marco Spreatico	PhD	INFNGE	Raffaella De Vita	3	Y
Niveditha Ramasubramanian	PostDoc	SACLAY	Maxime Defurne	3	Defer req.
Olga Bessidskaia-Bylund	PostDoc	SACLAY	Maxime Defurne	3	Withdrawn

June collaboration meeting

Person	Position	Institute	Proposer	Period	Action
Mitchell Kerver	PhD	ODU	Charles Hyde	20	Defer req.
Marshall Scott	PostDoc	ANL	Zein-Eddine Meziani	12	Y
Ishara Fernando	PostDoc	VIRGINIA	Dustin Keller	5	Defer req.
Derek Holmberg	PhD	WM	Keith Griffioen	8	Y
Gregory Matousek	PhD	DUKE	Anselm Vossen	5	Y
Niveditha Ramasubramanian	PostDoc	SACLAY	Maxime Defurne	8	Y
Alec Peck	PhD	UCR	Miguel Arratia	5	Defer. req
Carlos Ayerbe Gayoso	Research Scientist	WM	Keith Griffioen	5	Y
Mikhail Yurov	PostDoc	MISS	Lamiaa El Fassi	5	Y

November collaboration meeting

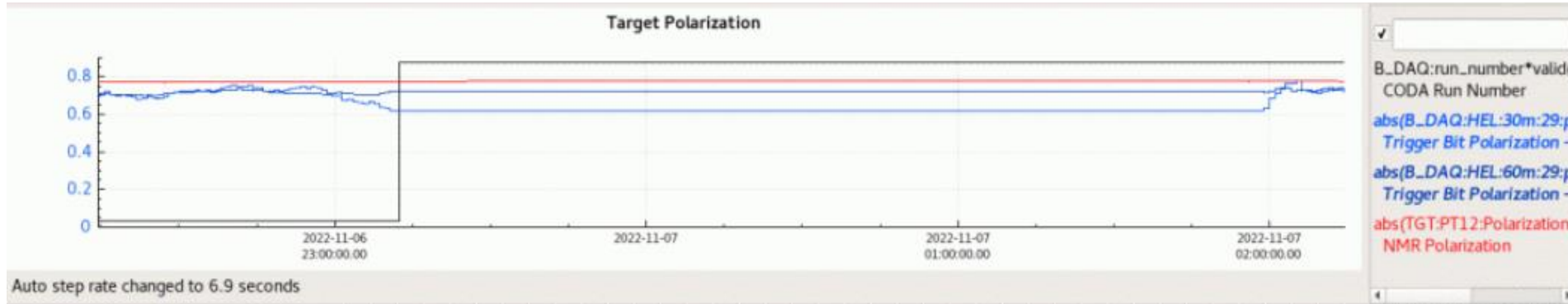
Potential services other than taking shift/RC/Target expert:

In general, we could see and pick from the service-list task that will be uploaded on November 15<sup>th</sup>

## SOS: Two Different Forms

- **Submit a report of amount of service work done in 2022**
  - Each CLAS term and full member reports the service they did
  - Service done by non-class members (such as students) should be reported as well - by advisor or institutional representative
  - The institutional representative submits the completed report
  - Expected service is by institution:  $0.25*N$ ,  $N = N_{\text{term}} + N_{\text{full}}$
- **Submit an estimate of service you commit to do in 2023**
  - Only ongoing reviews can be included - make a note this is ongoing
  - Select available task from the CLAS12 Service Task list for 2023 (opens on 15th November)

Polarization target analysis: Estimate the real polarization since the NMR coils are placed outside so it sensitive to the outer part of the target (discussion with Chris Keith)





Analysis (and calibration):

**Run Group Analysis Coordinators:**

- **RG-A:** Latifa Elouadrhiri, Timothy Hayward
- **RG-B:** Silvia Niccolai, Adam Hobart (deputy)
- **RG-C:** Silvia Niccolai
- **RG-K:** Annalisa D'Angelo
- **RG-M:** Justin Estee

Also, you can contact Maxime Defurne as the new chair for Deep Process Working Group

## Ongoing developments



- New CVT track finding (see Veronique's talk)
- New in-layer CND finding and improved CD neutrals in EB
- EB track-hit matching based on trajectories for all tracking levels (HB and TB)
- BAND reconstruction improvements
- RICH updated reconstruction
- ALERT reconstruction
- Geometry and reconstruction for the uRwell tracker (see Stepan's high-luminosity update talk)
- Support on ongoing Run-Group C data taking (see Nathan's talk)

## What's next

- Support to data analyses:
  - Modifications to background merging for compatibility with truth-matching
  - Finalize truth-matching
  - Run-dependent MC simulations
  - Kinematic fitting
  - ...
- Continue improvements to event reconstruction accuracy, efficiency, and speed
- Develop online reconstruction
- Continue efforts to improve documentation, develop tutorials, ...

## Future opportunities:

- Polarized-target experiment at Hall D: There is one polarized-target approved at Hall D for GDH physics. But the hall D leader wants more physics program before pushing the schedule for the experiments. I talked to Alexander Deur and He encouraged us to write proposal with more physics program.
- Recoil proton polarization at Hall C: There are more GPDs to be accessed if we could measure the recoil proton polarization in DVCS channel. The idea is to use two arms of Hall C to measure the scattered electron and photon and the build a polarimeter for proton (Discussion with Maxime)
- Maxime also will provide us with the new data from CLAS12 possibly next week (for CFF extraction)
- Other: Sebastian Kuhn is looking for Lithium target (LiH and LiD?)

Other:

Met Andy Klein in Newport News



Learn new thing from the Italian target group



Nuclear Instruments and Methods in Physics  
 Research Section A: Accelerators, Spectrometers,  
 Detectors and Associated Equipment



Volume 882, 21 February 2018, Pages 17-21

A bulk superconducting MgB<sub>2</sub> cylinder for  
 holding transversely polarized targets

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## Summary:

- Our group has strong presence at CLAS12 collaboration
- We have to plan our service work that provide most benefit to our group
- Hall B is pack. More opportunities (proposal) in other halls

Proposal Count	Experiment Days	Run Groups	RG PAC days	Compression	Completed PAC days
47	3188	14	1171	0.37	255

With expected experiment schedule of 30 weeks per year:

- 30 weeks per year  $\approx 30/2 = 15$  PAC weeks = 105 PAC days
- To run remaining 2933 PAC days of individual experiments = 30 years
- To run remaining 916 PAC days as run groups =  $\sim 9$  years

- Hall C is the easiest to Join. I am the author of a Nature paper with only 2 block of shift **nature**

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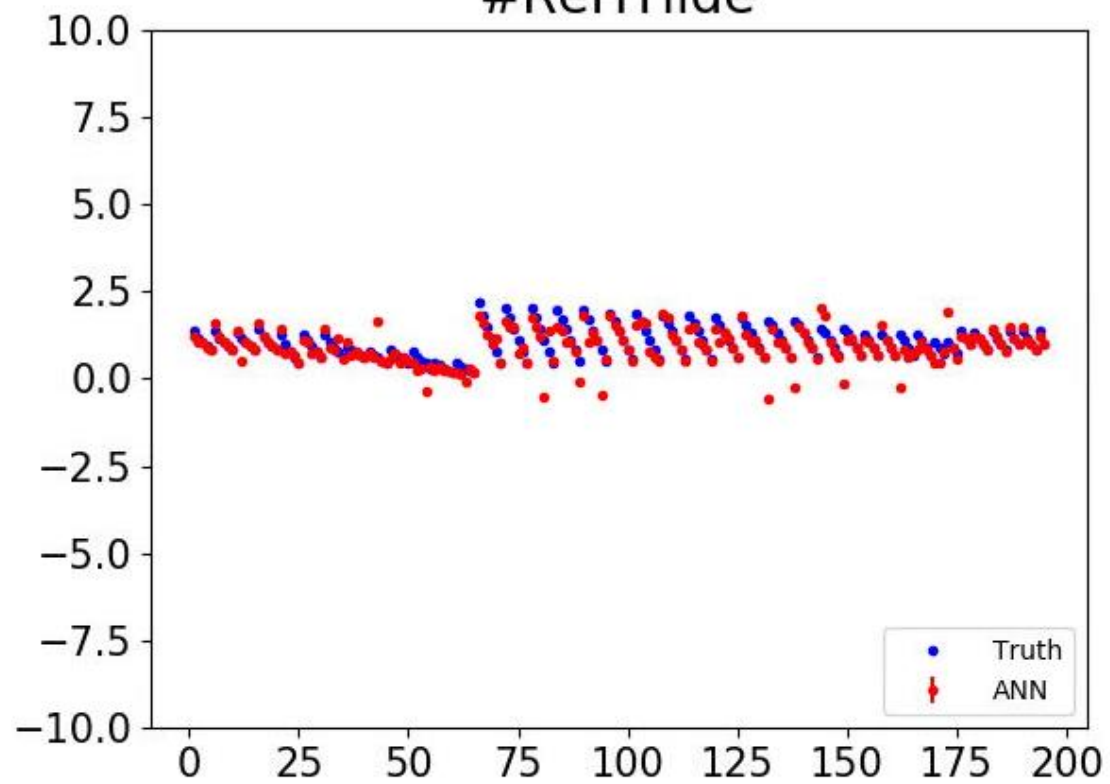
[nature](#) > [articles](#) > article

Article | [Published: 19 October 2022](#)

## Measured proton electromagnetic structure deviates from theoretical predictions

[R. Li](#), [N. Sparveris](#) , [H. Atac](#), [M. K. Jones](#), [M. Paolone](#), [Z. Akbar](#), [C. Ayerbe Gayoso](#), [V. Berdnikov](#), [D. Biswas](#), [M. Boer](#), [A. Camsonne](#), [J.-P. Chen](#), [M. Diefenthaler](#), [B. Duran](#), [D. Dutta](#), [D. Gaskell](#), [O. Hansen](#), [F. Hauenstein](#), [N. Heinrich](#), [W. Henry](#), [T. Horn](#), [G. M. Huber](#), [S. Jia](#), [S. Joosten](#), [A. Karki](#), [S. J. D. Kay](#), [V. Kumar](#), [X. Li](#), [W. B. Li](#), [A. H. Liyanage](#), [S. Malace](#), [P. Markowitz](#), [M. McCaughan](#), [Z.-E. Meziani](#), [H. Mkrtchyan](#), [C. Morean](#), [M. Muhoza](#), [A. Narayan](#), [B. Pasquini](#), [M. Rehfuss](#), [B. Sawatzky](#), [G. R. Smith](#), [A. Smith](#), [R. Trotta](#), [C. Yero](#), [X. Zheng](#) & [J. Zhou](#)  Show fewer authors

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