

PAC48 Closeout

Note: PAC report should be available next week.

I
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14 August 2020

HELMHOLTZ RESEARCH FOR
GRAND CHALLENGES



Proposals (1)

NUMBER	TITLE	CONTACT PERSON	HALL	DAYS REQUESTED	DAYS AWARDED	SCIENTIFIC RATE	PAC DECISION
New & Conditional Proposals							
PR12-20-001	DarkLight: Search for New Physics in e+e- Final States Near an Invariant Mass of 17 MeV Using the CEBAF Injector	J. Bernauer	INJ	55			Deferred
PR12-20-002	A Program of Spin-Dependent Electron Scattering from a Polarized He-3 Target in CLAS12	R. Milner	B	30	30	A-	C1
PR12-20-003	Extension request for E12-17-003: Determining the unknown Lambda-n interaction by investigating the Lambda-nn resonance	L. Tang	A	8.5			C2
PR12-20-004	PRad-II: A New Upgraded High Precision Measurement of the Proton Charge Radius	A. Gasparian	B	40	40	A	C1
PR12-20-005	Precision measurements of A=3 nuclei in Hall B	H. Szumilavance	B	60	60	A-	Approved
PR12-20-006	Precision Deuteron Charge Radius Measurement with Elastic Electron-Deuteron Scattering	A. Gasparian	B	40			Deferred
PR12-20-007	Backward-angle Exclusive pi0 Production above the Resonance Region	W. Li	C	29.4	29	B	Approved
PR12-20-008	Polarization Transfer in Wide-Angle Charged Pion Photoproduction	A. Puckett	A	2	2	B+	Approved
PR12-20-009	Beam charge asymmetries for Deeply Virtual Compton Scattering on the proton at CLAS12	E. Voutier	B	100			C2

Proposals (2)

NUMBER	TITLE	CONTACT PERSON	HALL	DAYS REQUESTED	DAYS AWARDED	SCIENTIFIC RATE	PAC DECISION
New & Conditional Proposals							
PR12-20-010	Measurement of the Two-Photon Exchange Contribution to the Electron-NeutronElastic Scattering Cross Section	E. Fuchey	A	2	2	A-	Approved
PR12-20-011	Measurement of the high-energy contribution to the Gerasimov-Drell-Hearn sum rule	A. Deur	D	29.1	33	A-	Approved
PR12-20-012	Deeply Virtual Compton Scattering using a positron beam in Hall C	C. Munoz Camacho	C	77			C2
PR12-20-013	Studying Lambda interactions in nuclear matter with the 208Pb(e,eK+)208_LambdaTI	F. Garibaldi	A	20	20	B+	Approved
C12-19-001	Strange Hadron Spectroscopy with Secondary KL Beam in Hall D	Amaryan Moskov	D	200	200	A-	Approved
C12-19-002	High accuracy measurement of nuclear masses of Lambda hyperhydrogens	Toshiyuki Gogami	A	13.5			C2
C12-18-005	Timelike Compton Scattering Off Transversely Polarized Proton	Marie Boer	C	50			C2

Proposals requiring a positron beam

- After a Letter of Intent in 2018, this year's PAC has received the first two proposals for measurements with a positron beam at CEBAF. In addition, an *e⁺@JLab White Paper* appeared on the arXiv just recently.
- The PAC sees great physics potential in a positron program. We encourage a vigorous effort to explore the technical feasibility of providing positron beams. We are looking forward to receiving further proposals in this area.
- At the present stage, it is difficult to predict the characteristics of positron beams that will be achievable. The PAC recommendations are based on the hypothesis that it will be possible to provide beams with the specifications detailed in the proposals.

Run group additions, Letters of Intent, Jeopardy

Run Group Additions			
E12-06-106A	B	Nuclear TMDs in CLAS12	Raphaël Dupre
E12-13-008A	D	Measuring the Neutral Pion Polarizability	Elton Smith
E12-09-007A	B	Studies of Dihadron Electroproduction in DIS with Longitudinally Polarized Hydrogen and Deuterium Targets	Christopher Dilks
E12-11-007A	A	A Precision Measurement of Inclusive g_2^n and d_2^n with SoLID on a Polarized ^3He Target at 8.8 and 11 GeV	Ye Tian
E12-06-117A	B	Dihadron measurements in electron-nucleus scattering with CLAS12	Miguel Arratia

Letters of Intent			
LOI12-20-001	B	Measurement of the Neutral Pion Transition Form Factor and Search for the Dark Omega Vector Boson	Ashot Gasparian
LOI12-20-002	C	Measurement of the neutron charge radius	Nikolaos Sparveris
LOI12-20-003	A	Sub- and Near-threshold Production of J/ψ Mesons from a Deuterium Target at SoLID	Haiyan Gao

- All 5 run group additions are endorsed.
- Reports are provided on the 3 Letters of Intent.
- Experiments in Jeopardy will be reviewed on September 25. The results will be added to the report document shortly afterwards.

Comments

- The PAC was pleased to see a large number of high-quality proposals, with well presented arguments and carefully planned measurements.
- However, there are some recurrent issues with proposals.
 - ▶ We recommend proponents to make a clear distinction between the general **physics context** and the **concrete goals** to be achieved with their experiment. For instance, 'Improving our knowledge of GPDs / TMDs' is not a concrete goal.
 - ▶ Many proposed measurements are aiming at high precision. Control of **systematic uncertainties** then becomes crucial, and estimates of their size should be appropriately documented.
 - ▶ Unfortunately, several proposals were suffering from too many 'minor flaws': inconsistent numbers, broken sentences, unclear figure legends, unnecessary repetitions, stray paragraphs from previous versions, and more.

This puts extra workload on the readers and slows down the PAC review.

The PAC readers are the best advocates of your proposal if they find it compelling. **Please assist them by submitting carefully prepared proposals!**

Thanks to

- all spokespersons and collaborations
- all PAC reviewers and Kent Paschke (JLUO Chair)
- Jlab management and scientists
especially Bob McKeown, Rolf Ent, Patrizia Rossi,
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