Jefferson Lab
EXPLORING THE NATURE OF MATTER

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Beam Schedule - Edit/View Form #61813

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Person: Kent Paschke (paschke@jlab.org)
ORG: PHALLA

Status: Saved
Date:

JSA
THOMAS JEFFERSON NATIONAL ACCELERATOR FACILITY
12000 Jefferson Avenue
Newport News, VA 23606
Phone: (757) 269-7100

Beam Schedule 61813

Experiment Title: ***PREX-II: Precision Parity-Violating Measurement of the Neutron Skin of Lead***
ID: ***E12-11-101***

Experiment Hall
A

What fraction of the PAC-approved runtime for your experiment is included in this request?
100

Explain your request. This explanation should be able to guide the scheduling committee. Outline if only a fraction of the PAC-approved runtime is requested. Identify any constraints on the scheduling of your experiments (e.g. periods when members of the collaboration have prior commitments that would exclude their participation, or times when critical apparatus will not be available): Type your answer in the space provided below or attach a document in the attachments section at the bottom of this form.

Full run requested. For efficiency in installation/deinstallation, assumes consecutive running with E12-12-004 (CREX). PREX requires 1 GeV beam, so is not compatible with standard 12 GeV linac energy.

Associated Experiments

Note: Use this section to link other experiments
Directions: To add an associated experiment click the Add Experiment button. An auto complete text field will appear where you can type the experiment. Select the auto complete item that matches the experiment typed

Linked Experiments

Add Experiment

Collapse All

Appendix A

Proposed Commissioning and Run Schedule

Enter data in preferred time sequence for energies, current, targets, beam conditions, etc, for the entire Run Plan including commissioning. Under "Special Requirements" below, note all critical scheduling needs, e.g., a certain set of energies must be run before another set, etc.

NOTE: INDICATE ALL MAJOR EQUIPMENT CHANGES, BREAKS, OR MAINTENANCE DAYS, ETC. ON SEPARATE LINES.

Days	Setup Number from Radiation Budget Form	Tag No. Special Requirements (including any variance from standard beam conditions)
10	2-8	low current 50nA-2microAmp
25	1	optimized longitudinal polarization

**Assume 100% efficiency for accelerator and experimental operations. ** Provide setup numbers as indicated on the Radiation Budget Form. The sum of the run days must be = the PAC-approved days. Consult Accelerator Liaison Physicist H. Areti for current beam capabilities.*

Appendix B

Proposed Apparatus or Beam Development Run Schedule

Fill in one of these forms for each proposed development activity. Enter data in preferred time sequence for energies, current, targets, beam conditions, etc, for the entire Development Run. Under "Special Requirements" below, note all critical scheduling needs, e.g., a certain set of energies must be run before another set, etc.

Identify the goals of the development run and indicate the experiment(s) for which the proposed run is relevant:

NOTE: INDICATE ALL MAJOR EQUIPMENT CHANGES, BREAKS, INSTALLATION OR SETUP, OR MAINTENANCE DAYS, ETC. ON SEPARATE LINES.

Days	Setup Number** from Radiation Budget Form	Special Requirements Include any variance from standard beam conditions, special developmental setups, special beamline or experimental equipment, and associated setup and installation times in the hall, etc

**Assume 100% efficiency for accelerator and experimental operations. ** Provide setup numbers as indicated on the Radiation Budget Form*

Appendix C

Pre-Installation Requirements

For all changes, additions, and enhancements to the standard* equipment (including detector systems) and for new equipment, identify for each area listed below the following specific items: who will be doing the work (User/J Lab staff/contractor); the manweeks required for the work; when the work will be done; and the work location.

Engineering and Design:**

Design and Engineer: target and scattering chamber, collimators, shielding.

Equipment to be Fabricated:***

Target: Target Group
Collimator, shielding: Hall A
Detector support: Users (SBU)

Pre-Installation Tests: (Identify any developmental activities with or without beam, associated with the equipment changes. Indicate locations.)

** See the Hall leader for a list and description of standard equipment. ** Complete requirements must be provided for equipment requiring JLab engineering and design. *** Complete drawings must be provided for equipment to be fabricated by JLab*

INSTALLATION REQUIREMENTS

For each item below, identify days to complete installation, type of manpower (i.e. welder, electrician, programmer, etc.), manweeks of effort for each subsystem, and the man effort (User/J Lab staff/contractor).

	Equipment to be installed	Time (days) (Assuming 100% efficient operation)	Type of Manpower	Man-Weeks of Effort	User/JLab Staff/Contractor
Alignment	beam collimator sieve target Q1 collimator compton pol.	5	survey group		JLab Staff
Electrical	Included in septum and moller polarimeter installation.				

Mechanical	beam colimator, septum, septum beamline, shielding	58	Hall A Technical Staff		
Detector	change HRS stack Install Quartz/GEM stack	12	Jack/Hall A staff Users		Jack, SBU and ISU users
Target	target chamber, cryogenic system, target ladders	19	Hall A staff		Hall A staff, Target Group
Beamline (including Radcon)	Collimators, beam pipe in pivot region (included in septum mechanical installation)				
Modifications to Standard Equip	0				
Slow Controls (EPICS)	0				
Other	Moller polarimeter	15	Hall A staff, users		

DECOMMISSIONING and DEINSTALLATION

List all items requiring decommissioning and/or deinstallation following your experiment. For each item indicate type of manpower (lift operator, welder, electrician, etc.), man-weeks of effort for each subsystem, and the man effort (User/J Lab staff/contractor).

Equipment to be removed	Equipment Location	Time (days) (Assuming 100% efficient operation)	Type of Manpower	Man-Weeks of Effort	User/JLab Staff/Contractor
Target	pivot	5	Target, Radcon		JLab Staff
collimator	pivot	2	Hall A Tech, Rad		JLab Staff
Septum/vacuum	pivot	10	Hall A Tech, Rad		JLab Staff
Quartz/GEM	HRS	1	Users		users

Obtain hall leader's concurrence that the information in this Appendix is understood and adequate for schedule planning

Appendix D

Target Systems

For polarized targets, describe plans for irradiation activities. (Include in the proposed commissioning and run schedule all appropriate irradiation activities.)

Describe any changes and/or modifications to standard cryogenic targets.

solid targets on a cryogenically cooled frame.

Add installation and setup plans developed in coordination with C. Keith using the Appendix B format.

Appendix E

Data Acquisition

Indicate the anticipated data acquisition rates (peak and averages) as well as the anticipated total data going to media.

Data Acquisition Rate Peak (megabytes/second):

0.7

Rate Average (megabytes/second):

0.4

Total Data Going to Media (gigabytes):

1500

Indicate the proposed modifications to the data acquisition system. Include a schedule of developmental activities identifying who is doing the work.

None. DAQ is essentially ready.

Indicate the proposed modifications to the controls system. Include a schedule of developmental activities identifying who is doing the work.

Septum magnet and target require additional controls.

Appendix F

User Staffing Profile

For each phase of the experiment (design, construction, testing, commissioning, running, deinstallation, and data reduction and analysis), indicate the number of onsite FTE users you anticipate, the incremental office and laboratory space required (i.e., space not already provided to collaboration members), and your desired location.

	Collaboration FTEs at JLab	Storage Space	Laboratory Space	How long is space needed?	Comments
Design	0.5 yr	25 m^2	100 m^2	0.5 yr	
Construction	0.5 yr	25 m^2	100 m^2	0.5 yr	
Testing	0.2 yr	25 m^2	100 m^2	0.2 yr	- septum tests - electronics tests
Commissioning	1.6 yr	25 m^2	100 m^2	0.1 yr	
Running	3.2 yr	25 m^2	80 m^2	0.2 yr	
Deinstallation	0.1 yr	10 m^2	80 m^2	0.1 yr	
Decommission	0.1 yr	10 m^2	80 m^2	0.1 yr	

Data	4.0 yr	0	80 m^2	1 yr	

If you require new office space, you need to contact the User Liaison Office at 757.269.6388 or users@jlab.org for additional information

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Signatures

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