PAC43 Proposal Submission Cover Sheet

Title:
Deeply virtual Compton scattering on the neutron with a longitudinally polarized deuteron target

Days Requested for Approval:
123 days total. 62 new days, and 61 days shared with previously approved experiments.

Experimental Hall
B

Proposal Physics Goals:
Silvia et al: Correct as necessary.
The goal of the proposed experiment is the extraction of neutron Compton Form Factors. This shares the same goal as approved experiment E12-11-003, "Deeply Virtual Compton Scattering on the Neutron with CLAS12 at 11 GeV". The extraction is only possible through the combination of both experiments.

Collaboration-Approved Proposals:
We will run approximately 50% of the proposed experiment in parallel with approved experiments in CLAS12 Run Group RG-Cb (006-109, E12-007-107, and E12-09-007b). New beam time is required to complete the additional 50%.

List Beam Energies:
123 days at 11 GeV

List Range of Beam Currents:
10 nA

Spokespersons:
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Major Equipment (everything is CLAS12 base equipment, except the target)
Leave everything blank except:

Target:
CLAS12 Longitudinally polarized target

Hall Liason:
??

Beam Requirements (click "Add beam requirement" to see the new boxes)

Beam energy (MeV): 11,000
Mean Beam Current (uA): 0.01
Polarization and other: beam pol. > 0.8
Est Beam-on Time (hours): 2400
Target materials: deuterated ammonia (ND3): 2400 mg/cm2
Carbon: 2400 mg/cm2

Hazards:

Cryogenics: Analysis magnets
Type: CLAS12 solenoid, torus (leave flow and capacity blank)
Electrical Equipment: leave blank
Pressure vessel: leave blank
Special target materials: leave blank
Flammable: Leave blank
Drift container: Leave blank
Other target materials: Add "ND3" and "carbon"
Vacuum Vessels: Click "Window Thickness"
Radioactive: leave blank
Large Mech structures: leave blank
Lasers: leave blank
Hazardous Materials: Leave blank

General: Click “Base equipment”

Computing requirements:
No idea