Jefferson Lab PAC 38
Proposal Cover Sheet

Experimental Hall:	C
Days Requested for Approval:	39.8

This document must be received by close of business Friday, July 1, 2011 at:

Jefferson Lab
Mail Stop 12B
12000 Jefferson Ave.
Newport News, Va
23606

Proposal Title:

The Deuteron Tensor Structure Function b1

Proposal Physics Goals:
Indicate any Experiments that have physics goals similar to those in your proposal.

Approved Conditionally approved, and/or Deferred Experiment(s) or proposals.

Contact person:

Name : K. Slifer
Institution : UNH
Address : 9 Library Way
Address :
City, State, ZIP/Country : Durham, NH
Phone : 603-722-0695

Spokespersons:

1. K. Slifer
2. P. Solvignon
3. J.P. Chen
4. O. Rondon
5. N. Kalantarians
6.

Fax :	**7.**
Email : slifer@jlab.org	**8.**

Contact person:	**(Jefferson Lab Use only.)**
Recipient Date :	
By :	

LAB RESOURCES LIST

Jlab Proposal No.: Date

List below significant resources - both in equipment and human - that you are requesting from Jefferson Lab in support of mounting and executing the proposed experiment. Do not include item that will be routinely supplied to all running experiments such as the base equipment for the hall and technical support for routine operation, installation, and maintenance.

Major Installations (either your equip. or new equip requested from JLab)

UVA/JLab 5T polarized target. Upstream chicane.

New Support Structures

Data Acquisition/ Reduction

New Support Structures

New Software

Major Equipment

Magnets :

BE and BZ1 upstream chicane magnets

Power Supplies:

chicane

Targets:

UVA/JLAB 5 T polarized Target

Detectors:

Electronics:

Computer Hardware:

Other:

slow raster

Other:

BEAM REQUIREMENTS LIST

Jlab Proposal No.: Date

Hall: C Anticipated Run Date PAC Approved Days:

Spokesperson: K. Slifer Hall Liaison:

Phone: 603-722-0695

Email: slifer@jlab.org

List all combinations of anticipated targets and beam considerations required to execute the experiment. (This list will form the primary basis for the Radiation Safety Assessment Document (RSAD) calculations that must be performed for each experiment.)

Condition No.	Beam Energy (MeV)	Mean Beam Current (μA)	Polarization and Other Special Requirements (e.g. time structure)	Target Material (use multiple rows for complex targets - e.g. w/windows)	Material Thickness (mg/cm^2)	Est. Beam-On Time for cond. No. (hours)
1	11000	0.110	unpolarized	ND3	300	912
2	2200	0.110	polarized	ND3	300	48
3	11000	0.110	unpolarized	Carbon	300	24

The beam energies, E_{Beam}, available are: $E_{Beam} = N \times E_{Linac}$ where N = 1, 2, 3, 4, or 5. E_{Linac} = 800 MeV, i.e, available E_{Beam} are 800, 1600, 2400, 3200 and 4000 MeV. Other energies should be arranged with the hall leader before listing.

HAZARD IDENTIFICATION CHECKLIST

Jlab Proposal No.: _____ Date _____

Check all items for which there is an anticipated need.

Cryogenics

- ☑ beamline magnets
- ☑ analysis magnets
- ☑ target magnets

type: superconduc

flow rate: 5 l/hr

capacity: 10 l

Electrical Equipment

- ☐ cryo/electrical devices
- ☐ capacitor banks
- ☐ high voltage
- ☐ exposed equipment

Radioactive/Hazardous Materials

List any radioactive or hazardous/toxic materials planned for use:

Pressure Vessels

- ☑ inside diameter
- ☑ operating pressure
- ☑ window material
- ☐ window thickness

Special Target Materials

- ☐ *Helium (^{3}He)
- ☐ Deuterium

Flammable Gas or Liquids

type:

flow rate:

capacity:

Drift Containers

type:

flow rate:

capacity:

Other Target Materials

- ☐ Beryllium (Be)
- ☐ Lithium (Li)
- ☐ Mercury (Hg)
- ☐ Lead (Pb)
- ☐ Tungsten (W)
- ☐ Uranium (U)
- ☐ *Helium (^{3}He)
- ☐ Other (List below)

Vacuum Vessels

- ☐ inside diameter
- ☐ operating pressure
- ☐ window material
- ☐ window thickness

Radioactive Sources

- ☐ permanent installation
- ☐ temporary use

type:

strength:

Large Mech. Structure/System

- ☐ lisfting devices
- ☐ motion controllers
- ☐ scaffolding or
- ☑ elevated platforms

Lasers

Hazardous Materials

General

type:

wattage:

class:

Installation:

- [ ] permanent
- [ ] temporary

Use:

- [ ] calibration
- [ ] alignment

- [ ] cyanide plating materials
- [ ] scintillation oil (from)
- [ ] PCB's
- [ ] methane
- [ ] TMAE
- [ ] TEA
- [ ] photographic developers
- [ ] other (list below)

Experiment Class

- [x] Base Equipment
- [x] Temp. Mod. to Base Equip.
- [ ] Permanent Mod to Base Equipment
- [ ] Major New Apparatus

Other:

Computing Requirements List

Proposal Title: The Deuteron Tensor Structure Function b1

Spokesperson: K. Slifer **Experimental Hall:** C

Data:

Silo/Mass Storage (Tape): 2 T

Amount of Simulated Data Expected (TB):

Amount of Raw Data Expected (TB) 2 T

Amount of Processed Data Expected: 1 T

Online Storage (Disk) Required (TB): 1 T

Imported Data Expected from Offsite Institutions:

Exported Data Expected to Offsite Locations:

Computing:

Simulation Requirements (SPEC CINT2000 hrs):

Production (Replay, Analysis, Cooking) Requirements (SPEC CINT2000 hrs):

Other Requirements

Please add any additional information that will be useful for JLab's Information Technology group regarding unique configurations or that may require additional resources and/or coordination. Please indicate if possible what fraction of these resources will be provided by collaborating institutions and how much is expected to be provided by JLab.

Submit