



Jefferson Lab PAC21 Proposal Cover Sheet

This document must
be received by close
of business Monday,

Dec. 3, 2001 at:

Jefferson Lab
User/International Liaison
Mail Stop 12B
12000 Jefferson Ave.
Newport News, VA
23606

Experimental Hall: Hall A

Days Requested for Approval: 22

Proposal Title:

Measurement of A_x and A_z asymmetries
in the quasi-elastic $\vec{e} + {}^3\text{He} \rightarrow \vec{e}' + d$ reaction

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: Z. Zhou, W. Bertozzi, S. Sirca, D. Higinbotham, B. Norum

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Jefferson Lab Use Only

Receipt Date: _____

By: _____

LAB RESOURCES LIST

JLab Proposal No.: _____ Date _____
(For JLab ULO use only.)

List below significant resources — both equipment and human — that you are requesting from Jefferson Lab in support of mounting and executing the proposed experiment. Do not include items 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)*

none

Major Equipment

Magnets: none

Power Supplies: none

Targets: none

New Support Structures:

none

Detectors: none

Electronics: none

Data Acquisition/Reduction

Computing Resources:

none

Computer Hardware: none

Other: none

New Software:

none

Other:

none

HAZARD IDENTIFICATION CHECKLIST

JLab Proposal No.: _____

Date: _____

(For CEBAF User Liaison Office use only.)

Check all items for which there is an anticipated need.

<p>Cryogenics</p> <p><input type="checkbox"/> beamline magnets</p> <p><input type="checkbox"/> analysis magnets</p> <p><input checked="" type="checkbox"/> target</p> <p>type: <u>Polarized 3He</u></p> <p>flow rate: <u>standard</u></p> <p>capacity: <u>Hall A</u></p>	<p>Electrical Equipment</p> <p><input type="checkbox"/> cryo/electrical devices</p> <p><input type="checkbox"/> capacitor banks</p> <p><input type="checkbox"/> high voltage</p> <p><input type="checkbox"/> exposed equipment</p>	<p>Radioactive/Hazardous Materials</p> <p>List any radioactive or hazardous/toxic materials planned for use:</p>
<p>Pressure Vessels</p> <p>_____ inside diameter</p> <p>_____ operating pressure</p> <p>_____ window material</p> <p>_____ window thickness</p>	<p>Flammable Gas or Liquids</p> <p>type: _____</p> <p>flow rate: _____</p> <p>capacity: _____</p> <p>Drift Chambers</p> <p>type: <u>standard Hall A</u></p> <p>flow rate: _____</p> <p>capacity: _____</p>	<p>Other Target Materials</p> <p><input type="checkbox"/> Beryllium (Be)</p> <p><input type="checkbox"/> Lithium (Li)</p> <p><input type="checkbox"/> Mercury (Hg)</p> <p><input type="checkbox"/> Lead (Pb)</p> <p><input type="checkbox"/> Tungsten (W)</p> <p><input type="checkbox"/> Uranium (U)</p> <p><input checked="" type="checkbox"/> Other (list below)</p> <p style="margin-left: 20px;">Polarized 3He target with 33 mg/cm² thickness</p>
<p>Vacuum Vessels</p> <p>_____ inside diameter</p> <p>_____ operating pressure</p> <p>_____ window material</p> <p>_____ window thickness</p>	<p>Radioactive Sources</p> <p><input type="checkbox"/> permanent installation</p> <p><input type="checkbox"/> temporary use</p> <p>type: _____</p> <p>strength: _____</p>	<p>Large Mech. Structure/System</p> <p><input type="checkbox"/> lifting devices</p> <p><input type="checkbox"/> motion controllers</p> <p><input type="checkbox"/> scaffolding or</p> <p><input type="checkbox"/> elevated platforms</p>
<p>Lasers</p> <p>type: _____</p> <p>wattage: _____</p> <p>class: _____</p> <p>Installation:</p> <p><input type="checkbox"/> permanent</p> <p><input type="checkbox"/> temporary</p> <p>Use:</p> <p><input type="checkbox"/> calibration</p> <p><input type="checkbox"/> alignment</p>	<p>Hazardous Materials</p> <p><input type="checkbox"/> cyanide plating materials</p> <p><input type="checkbox"/> scintillation oil (from)</p> <p><input type="checkbox"/> PCBs</p> <p><input type="checkbox"/> methane</p> <p><input type="checkbox"/> TMAE</p> <p><input type="checkbox"/> TEA</p> <p><input type="checkbox"/> photographic developers</p> <p><input type="checkbox"/> other (list below)</p>	<p>General:</p> <p>Experiment Class:</p> <p><input checked="" type="checkbox"/> Base Equipment</p> <p><input type="checkbox"/> Temp. Mod. to Base Equip.</p> <p><input type="checkbox"/> Permanent Mod. to Base Equipment</p> <p><input type="checkbox"/> Major New Apparatus</p> <p>Other: <u>Standard Hall A</u> <u>Polarized 3He target</u></p>

Computing Requirements List

Proposal Title: Measurement of A_x and A_z asymmetries
in the quasi-elastic $\text{vec}[^3\text{He}] (\text{vec}[e], e' d)$ reaction

Spokesperson: Z. Zhou, W. Bertozzi, S. Sirca, D. Higinbotham, B. T

Experimental Hall: Hall A

Raw Data Expected

Total: _____ **Per Year (long duration experiments only):** _____

Simulation Compute Power (SPECint95 hours) Required: _____

On-Line Disk Storage Required: yes _____

Imported Data Amount from Outside Institutions: none _____

Exported Data Amount to Outside Institutions: w _____

Expected Mechanism for Imported/Exported Data: _____

Special Requirements

For example, special configuration of data acquisition systems) that may require resources and/or coordination with JLab's Computer Center. 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.

None foreseen.

Submit