

# LA-UR-24-33164

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**Title:** Call for Proposals: Proton Radiography 2025 Run Cycle

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**Intended for:** Proposal call for experiments to be considered for pRad 2025 calendar year run cycle.

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## Call for Proposals: Proton Radiography 2025 Run Cycle

**Deadline:** 5:00 pm (MST), Friday, January 31, 2025

**Program Advisory Committee Review with PI presentations:** Tentative – Week of February 24, 2025.

The Los Alamos Neutron Science Center (LANSCE) is issuing a Call for Proposals for experiments for the pRad Facility <https://lansce.lanl.gov/facilities/prad/index.php> during Calendar Year 2025. Accepted experiments will be scheduled from approximately October 1, 2025, through December 21, 2025. The proton radiography facility uses 800 MeV protons, provided by the LANSCE accelerator facility at Los Alamos National Laboratory (LANL), to diagnose dynamic and static experiments in support of national and international weapons science and stockpile stewardship programs and other research that benefits from the unique capabilities of proton radiography.

### Key Considerations for 2025

- All proposals must be newly submitted, regardless of prior approvals or beam time awards. If your proposal was submitted and awarded beam time in the previous year, you may resubmit it for the current cycle. To do so, include the prior proposal number and provide an addendum outlining any updates or changes for this year's submission.
- If your experiment will be ready for the 2025 run cycle, submit under this call. If not, defer to a future call.
- If you need help with the proposal submission process, contact Mary Sandstrom at [msandstrom@lanl.gov](mailto:msandstrom@lanl.gov) to be assigned a pRad Point of Contact (POC); otherwise, if you are awarded beamtime, you will be assigned a POC.

The 2025 run cycle has been adjusted to accommodate the return of plutonium (Pu) experiments during the first three months of the cycle. Given the limited time available for non-plutonium (non-Pu) shots and the uncertainty surrounding this time, it is unlikely that powder gun experiments will be prioritized during the 2025 run cycle. The pRad facility anticipates firing a limited number of vessel shots following the completion of plutonium experiments. Proposers are strongly encouraged to consider these constraints when deciding to submit proposals for the 2025 cycle.

**Note:** If pre-shot sample characterization using neutron diffraction would benefit your experiment, include this in your proposal. Instruments such as SMARTS and HIPPO at the Lujan Center may be used for characterization, subject to feasibility. (Details at <https://lansce.lanl.gov/facilities/lujan/index.php>).

### pRad Facility Scope and Costs

pRad beam production operations are funded by NNSA programmatic sponsors.

Approximately 10% of beam time is available for:

- Compelling scientific proposals from institutions without programmatic sponsors.
- Proprietary work or Strategic Partnership Project (SPP) agreements.

### User Costs

- Personnel outside the pRad team.
- Experimental setup, including fabrication and assembly.

Proposals should demonstrate prior testing at other facilities and identify known technical, operational, and safety risks with corresponding mitigations.

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## Proposal Requirements

Due to the shortened run cycle to accommodate Pu experiments at pRad, proposals must follow the updated guidelines to improve review efficiency and ensure readiness. Please provide justification if any of the below sections are not included in the proposal. Higher priority will be given based on completeness of submissions for the Program Advisory Committee (PAC) review and presentation.

Proposals must include the following structured sections:

1. Background:
  - Summarize previous experiments and findings.
  - Include references to archived data or publications, if applicable.
2. Simulations:
  - Provide the status of pre-shot simulations.
  - Confirm simulation data is archived in CMF or equivalent storage.
  - For simulation support contact Elise Tang, etang@lanl.gov.
3. Experimental Models and Validation:
  - Describe the physics models being tested or validated.
  - Detail spatial, temporal, and other data requirements.
4. Experimental Setup:
  - Detail devices, configurations, and beam time requests.
  - Include operational and safety considerations.
5. Readiness:
  - Report parts availability, critical milestones, and risks to readiness.
  - Discuss mitigation strategies for identified risks.
6. Safety and Feasibility:
  - Address technical, operational, and safety risks, along with proposed mitigations.
7. Data Plan:
  - Identify sponsoring programs and data stakeholders.
  - Outline data archiving, analysis, reporting, and publication plans.

## Evaluation Criteria

Submitted proposals will be assessed on:

1. Quality of the proposed science (What is the problem, and why are experiments needed?). This should be described in sections 1-3
2. Impact to programs (How will the data be used?). Describe in sections 3 and 7
3. Appropriateness of using the pRad diagnostic for the experiments (Why can't this be done elsewhere?) Covered in sections 3 and 4
4. Readiness of the experiments, feasibility with stated resources, and requested time. Covered in sections 5 and 6.

## Program Advisory Committee

Complete proposals will be forwarded to their assigned Point of Contact (POC) for a feasibility review. Following this, all eligible experiments will be evaluated by the Program Advisory Committee (PAC). The PAC, an advisory body to the LANSCE User Facility Director, assesses proposals based on the outlined criteria.

## Proposal Submission

### Step 1: Log into the LANSCE Experiment Management System

- Create an account at <https://lems.lanl.gov/login>.
- Complete the system questionnaire and note your proposal number.

### Step 2: Submit Full Proposal to LANSCE

- **Unclassified and OUO/Export Controlled Proposals**

Submit via transfer.lanl.gov or email to Mary Sandstrom (msandstrom@lanl.gov), Brandon White (bwhite8@lanl.gov), and Keith Rielage (rielagek@lanl.gov). Include your proposal ID number from Step 1.

- **Classified Proposals**

Submit via transfer.lanl.gov or email on the classified network to the same contacts. For proposals containing Sigma 15 or 20 information, contact James Wernicke (wernicke@lanl.gov) for instructions.