



Call for Proposals: Proton Radiography 2021 Run Cycle

Deadline: 5:00 pm (MST) Monday, January 25, 2021

Program Advisory Committee Review with PI presentations: mid-February

The Los Alamos Neutron Science Center (LANSCE) is issuing a Call for Proposals for experiments for the 2021 pRad Run Cycle <https://lansce.lanl.gov/facilities/pRad/index.php>. This year a new proposal process is being implemented, so please read the proposal instructions carefully. No previous proposals, even those awarded beam time, will be scheduled for 2021. All must reapply for beam time. If your experiment will be ready for the 2021 Run Cycle (approximately June – December 2021), apply to this call. If your experiment will not be ready to shoot in that time frame, please apply instead to the 2022 call for 2022 beam time.

Contact the pRad Project Leader, Kathy Prestridge at kpp@lanl.gov, to be assigned a Point of Contact (POC) from the pRad Team. Your POC will help you with any questions you may have about the proposal process. Accepted experiments will be scheduled from approximately **early July through December 17, 2021**. 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.

The pRad facility has high explosive, pulsed power (PHELIX), and 40mm powder gun drivers available for experiments, although all drivers and imaging lenses may not be available in a given year. We anticipate that three imaging systems will be available for dynamic experiments, 1X, 3X, and 7X. The x7 magnifier will not be available for powder gun experiments. If your experiment would benefit from a pre-shot sample characterization using neutron diffraction, address the requirement in your proposal. If feasible, we will use the available instruments (SMARTS and HIPPO) at the Lujan Center to perform the sample characterization. See <https://lansce.lanl.gov/facilities/lujan/index.php> for instrument details.

pRad Facility Scope and Costs

pRad beam production operations are covered by NNSA programmatic sponsors.

Approximately 10% of the beam time at pRad is available for compelling scientific proposals from institutions without programmatic sponsors, and proprietary work or SPP (Strategic Partnership Project) agreements. For all experiments, costs for personnel not on the pRad team and unique experimental costs, including fabrication and assembly of the experimental package, must be borne by the user.

Proposers should work with their POC when developing their proposals. It is expected that pRad experiments will have had extensive testing at other facilities before coming to pRad.



Known technical, operational, and safety risks specifically associated with the proposed experiment must be identified in the proposal. Proposers should specify how the pRad measurements will inform theory, modeling, or validation work.

Proposal Required Documents

All proposals must use the new pRad proposal template. The template should be downloaded when you log into the LEMS system (see instructions below). Proposals not using this template, or incomplete proposals, will not be given to the pRad PAC for consideration. The proposal submission requires detailed information that was not required in past years, including signed engineering drawings for high-explosive experiments. Please complete all sections.

Once the proposal has passed the initial quality screening, it will be compiled with other proposals for PAC review.

Submitted proposals will be ranked on:

1. Quality of the science or measurement being proposed (What is the problem, and why are experiments needed?)
2. Impact to programs and milestones, graduate student work, postdoctoral research, staff development (How will the data be used?)
3. Appropriateness of the use of the pRad diagnostic for the experiments (Why can't this be done somewhere else?)
4. Readiness of the experiments, feasibility with stated resources, and requested time (Has other work been done informing the pRad experiments?)

The proposal template has been designed to help you answer these questions, and technical discussions with your POC should help you ensure that your proposal is as strong as possible. The more detailed information, including figures, photos or data from previous shots, etc. that can be provided, the stronger the proposal will be. In the PAC ranking process, each of these categories are scored equivalently. However, some NNSA programs and deadlines will drive prioritization of certain experiments.

Program Advisory Committee

All proposed experiments will be reviewed by the Program Advisory Committee (PAC). The PAC is an advisory committee to the LANSCE User Facility Director and judges the proposals based upon the criteria stated above. Proposers will be scheduled to make a presentation to the PAC, approximately in mid-February. ***Final scheduling of ranked proposals depends upon feasibility of fielding the shot within the constraints of the LANSCE block schedule and outages.***

Ultimately, experiments must be ready for beam time at pRad, and if they are not, or they are at high risk of not being ready, they will not be scheduled.



Proposal Submission

Part 1: Log into the LANSCE Experiment Management System

1. Log in to <https://lems.lanl.gov/login>.
2. Create an account (contact the pRad User Office if you have problems, prad-uo@lanl.gov).
3. Answer the questions in LEMS.
4. Your proposal number will be emailed to you.
5. Download the proposal template for all proposals (classified & unclassified).

Part 2: Submit Full Proposal to LANSCE

Unclassified and OUO/Export Controlled Proposals

1. Complete the proposal template, including all required attachments.
2. Your proposal filename should be in the format **pradproposalnumber-PILastName.pdf**.
3. Submit your proposal to nroelofs@lanl.gov and kpp@lanl.gov using the **transfer.lanl.gov** website (accessible from outside LANL, no account necessary).

Classified Proposals

Submit your classified proposal to Valorie Allison and Kathy Prestridge on the secure network (vallison@lanl.gov and kpp@lanl.gov) via email or transfer. Classified proposals must also use the proposal template, but please complete the shot metadata portion and send via the unclassified network. If this transmission method is not available to you, contact Valorie for alternatives. Classified proposals should be appropriately marked and include your LEMS proposal number. For proposals containing sigma 15 or 20 information, please contact Tamsen Schurman (tamsen@lanl.gov) for information on how to proceed.