

Radiation Physics Group

The Radiation Physics Group (RPG) provides oversight for the safe operation of existing beam lines and experiments, and expertise for design of shielding and radiation safety systems for new experiments and facilities. RP also performs applied research in radiation physics related to the overall SLAC mission, and provides expertise in this area to others at SLAC in support of their research efforts.

Mission of the RP Group

The mission of the RP Group is to:

- Perform calculations related to shielding and other radiological aspects and provide specifications for the design of new facilities and experiments
- Ensure safe beam containment by:
 - Assisting in beam-line design
 - Calculating radiation dose rates due to beam mis-steering
 - Calculating head loads for critical collimators and other devices
- Assist in the design of the Personnel Protection System and the Beam Containment System
- Perform initial radiation measurements and establish monitoring program for new beam lines
- Consult with experimenters on detector design and accelerator physicists on machine design
- Assist experimenters in determining causes of their radiation backgrounds and in designing shields to minimize the problem
- Provide assistance to engineers and physicists in avoiding or minimizing radiation damage
- Develop and maintain radiation transport codes to be used for shielding, dosimetry, radioactivation, detector design and machine development
- Provide oversight for safe operation of beam lines and experiments by creating procedures in conjunction with the Accelerator and SSRL Department Safety Offices
- Participate in the development of the radiation safety program at SLAC
- Perform research in radiation physics related to the overall SLAC mission, the primary goal being to make the shield-design process more accurate, thereby helping to reduce costs without compromising safety.