

Medical Physics Seminar

Monday, December 11th, 2017
1345 HSLC ~ 4:00 P.M.

E.R. Birnbaum, PhD

Los Alamos National Laboratory
Los Alamos, NM, USA



Isotope Production at Los Alamos National Laboratory

LANL's Isotope Production Facility (IPF) is an intermediate energy proton bombardment facility at the Los Alamos Neutron Science Center (LANSCE), configured to maximize production of high purity and high specific-activity isotopes. With a high current (250 μA) beam of 100 MeV protons incident on a water-cooled stack of three targets, IPF is well suited to produce specific long-lived isotopes in solid targets. Targets are processed at the nearby Hot Cell Facility and the isolated isotope products are shipped to customers for medical and industrial use, as well as for research into future applications. Currently, beam time is primarily used for the production of ^{82}Sr and ^{68}Ge , both of which are utilized for medical imaging via positron emission tomography (PET). Recent upgrades to IPF will be discussed, including a unique adjustable collimator that will increase overall IPF production capacity by over a factor of 2. In addition, ongoing research is focused on production of a number of other radionuclides; details of progress towards Ci-scale direct production of ^{225}Ac via irradiation of thorium targets will be described.

1345 Health Sciences Learning Center (HSLC) 4:00 - 5:00 P.M.