

Beams and Applications Seminar Series

This ANL seminar series is a CARA activity and focuses on the physics, technology and applications of particle and photon beams. It is sponsored jointly by the ASD Division, the AWA group of the HEP Division, and the ATLAS group of the PHY Division.

Bldg. 401, Room B2100

Friday, February 7

1:30 PM

Robert Garnett (LANL)

A Superconducting Driver Linac Design for Advanced Accelerator Applications.

Host: Petr N.Ostroumov

The conceptual design of a 1-GeV CW superconducting proton driver-linac based on multi-gap spoke resonator structures and elliptical cavities for advanced accelerator applications will be discussed. We have demonstrated the feasibility of using a relatively simple layout of superconducting accelerating structures throughout a proton linac for high-peak current applications. The low-energy injector for this superconducting linac is assumed to be the 6.7-MeV CW RFQ built for the Low-Energy Demonstration Accelerator at Los Alamos. The design philosophy and requirements for applications such as accelerator transmutation of waste will be discussed along with some unexpected potential limitations of the use of high-accelerating gradients at low beam velocities. The results of some beam dynamics and error simulations will also be shown.

For more information visit

<http://www.aps.anl.gov/asd/physics/seminar.html>

Visitors from off-site please contact John Power
(jp@anl.gov, 630-252-3191) to arrange for a gate pass.