

ACCELERATOR SEMINAR

A New ERL Accelerator Design Using Fix-Field Alternating Gradient Optics

***Bruce Dunham,
Cornell University***

At Cornell, we have been developing the technologies required to build a high-power, high-brightness energy recovery linac (ERL) over the past 10 years. Detailed studies of topics ranging from cathodes and lasers, DC guns, superconducting cavities, sophisticated simulations and optimizations, to undulators and even beam dumps have provided us with a 'toolbox' of high performance components that can be used for a variety of accelerator R&D projects. I will cover a number of applications, including injectors, electron cooling and UED. Our most ambitious project (recently funded) is a 4-pass, 250 MeV ERL using fixed-field, alternating gradient (FFAG) optics. This project is part of a collaboration with Brookhaven National Lab to demonstrate the critical, high-risk accelerator systems that will be required to make eRHIC possible. I will discuss how our 'toolbox' has enabled a fast project timeline for this new accelerator.

**Monday, March 28, 2016
11:00 a.m.
CEBAF Center, Room F113**

Coffee before seminar beginning at 10:45 p.m.