

Beams and Applications Seminar

This ANL seminar series 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.

Alex Lumpkin, ANL/AOD

*Utilization of Coherent Transition Radiation to Measure
the Evolution of Electron-beam Microbunching in a SASE
FEL Experiment*

Host: K.-J. Kim

Friday, October 6

1:30 pm

Blg 401, room B2100

The first measurements of the z-dependent evolution of electron-beam microbunching as revealed through coherent transition radiation (CTR) measurements in a visible self-amplified spontaneous emission (SASE) free-electron laser (FEL) experiment will be presented. The exponential growth rate of the CTR was found to be similar to that of the UR and consistent with simulations using the code GENESIS. In addition, a discussion of observed structures in the CTR angular distribution patterns will be presented for both the thermionic rf gun and PC rf gun beams. These latter effects may be useful for optimizing SASE FEL performance.

Visitors from off-site please contact Debbie Briddick (briddick@aps.anl.gov, 630-252-6620) to arrange for a gate pass.