

# The Beams and Applications Seminar Series

## *Simulation of Smith-Purcell Radiation using a particle-in-cell code*

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**Bldg. 401, rm B2100**

**Friday, September 2, 1:30 pm**

Host: M. Conde, HEP

A simulation of the generation of Smith-Purcell radiation is performed using the two-dimensional particle-in-cell code MAGIC. The simulation supposes that a thin (but infinitely wide) mono-energetic electron beam passes over a diffraction grating. We simulate two configurations with a continuous beam; one in the microwave domain, and a second that resembles the Dartmouth College experiment at Terahertz frequencies. We also simulate the recent MIT experiment that used a pre-bunched beam of 15 MeV electrons to produce Terahertz radiation.

### **For more information visit**

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

Visitors from off-site please contact Chun-xi Wang  
(wangcx@aps.anl.gov, 630-252-4968) to arrange for a gate pass.

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