

# The Beams and Applications Seminar Series

## *Current Results of the DESY Ground Vibration Measurements*

**Wilhelm Bialowons and Heiko Ehrlichmann  
(DESY)**

**Wednesday, Nov 12, 3:00 PM ← Note Time!!  
Bldg. 401, Room B2100**

Host: Louis Emery

In March 2001 the TESLA collaboration published the Technical Design Report for "The Superconducting Electron-Positron Linear Collider with an Integrated X-Ray Laser Laboratory". In October a supplement for the "First Stage of the X-Ray Laser Laboratory" was handed in later. This February the German Research Minister Edelgard Bulmahn gave green light for TESLA XFEL at DESY with European cooperation without a similar decision for the TESLA Linear Collider at the same time. Thus, it was appropriate to discuss the site for the laser facility again. The result will be published end of October. An important aspect for the evaluation of a Linear Collider and XFEL site is the expected lepton and photon beam stability. First measurements of ground motion at or near the DESY site began in the late 1980's. The ground vibration in Hamburg, at potential Linear Collider sites, dedicated Synchrotron Light facilities and reference places are currently investigated in detail with the same seismic sensors, methods and analysis. In the talk at Argonne we will give a brief description of the sensors, the theory and analysis tools. Ground motion examples like earth quakes, seven second hum and cultural noise will be explained and an overview of the current results will be given. Last but not least the actual XFEL site at DESY in Hamburg will be presented.

**For more information visit**

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

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

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.