

# PHYSICS DEPARTMENT COLLOQUIUM

“Light at the end of the Tunnel:  
Overview of, and Results from the FLuorescence in  
Air from Showers (FLASH) Experiment”

BY

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The FLASH experiment is an on-going collaboration between the HiRes group and the Stanford Linear Accelerator Center (SLAC) to measure (a) the absolute fluorescence yield from a beam of 28 GeV electrons, and (b) the relative fluorescence light production compared with energy deposition at different stages of shower development from electromagnetic showers induced by bunches of  $10^7$ - $10^8$  primary electrons (at 28 GeV) in aluminum oxide targets. Up to now, measurements were carried out between the summer of 2002 to the summer of 2005 in the Final Focus Test Beam (FFTB) Tunnel at SLAC. These measurements provide the critical energy scale for the HiRes and subsequent fluorescence experiments, such as the Telescope Array (TA) and the AUGER project. FLASH has made the most precise absolute yield measurement to date, and is the first experiment to study the shower development in fluorescence production. The speakers will give an overview of the FLASH program and present the current results. They would also like to point out that Charlie ambushed them into giving this talk with only 24hours' notice.

THURSDAY, APRIL 21, 2005  
4:00 PM IN 102 JFB  
REFRESHMENTS AT 3:30 PM IN 219 JFB