

**REU Project: Higher-Order-Mode Studies for the proposed Cornell University
ERL Prototype**

Mentors: Matthias Liepe and Hasan Padamsee

Skills: Programming skills (Labview) are desirable, but not essential

Description:

The CORNELL ERL Prototype will require a significant improvement in damping of higher-order modes (HOMs) in superconducting multicell cavities to guaranty high beam brightness. To achieve this we will design so called HOM couplers and broadband RF absorbers. The broadband dampers are based on exotic materials, which absorb RF waves in the GHz regime. Within this project a computer controlled setup will be built to study the field distribution and the damping of the HOMs in the cavities.