



Undergraduate Research Opportunity

Title of Project/Opportunity: **Current Pulse Modeling**

Type of Project: Experimental Theoretical Computational

Field of Physics: **Condensed Matter Physics (Semiconductor Lasers/Electronics)**

Term of Research Opportunity: Fall Semester Spring Semester
Summer Academic Year Project

Type of Research Opportunity:

Fixed Term Ongoing REU 1V95 4195/4196

Compensation for Research Opportunity: Summer Support Hourly
(Rate:) Academic Credit Experience Negotiable

Minimum Physics Background:

None General Physics Sophomore Physics Jr./Sr. Physics

Preferred Mathematical Background:

None Calculus sequence Diff. Eq. Courses Jr./Sr. Math

Preferred Computer Background:

None Familiarity with Computers Prior language programming

Other Preferred/Required Skills: Ability to model/program using platforms such as Mathematica/MATLAB/IDL, familiarity with plotting/fitting using programs such as Origin.

Brief Description of Research Opportunity: Will start off modeling simple systems such as resistors and capacitors to see what "square" pulses look like as a function of time (including rise time and fall time); will use this to add circuit components and look at the effects of lead resistance; ultimate goal is to understand the current-voltage characteristics of an LED separate from the other components in the circuit.

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