

## **AIAD #10876**

Research Opportunity (Faculty, Cadet, both) : Cadet

### **ORGANIZATION/PROJECT SPONSOR**

Organization: US Army Research Laboratory, Sensors and Electron Devices  
Directorate, Electronics & RF Division, Electronics Technology Branch

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Location of Sponsoring Directorate or Division (City, State): Adelphi, MD

### **PROJECT**

**Title:** Simulink Model of a Novel Imaging Radar System

**Description:** Cadet will use MATLAB / Simulink to produce a computer simulation of a synthetic Doppler Imaging System. The system will be capable of modeling a transmitter with the ability to generate a number of waveforms. The system developed should reproduce the Doppler frequency shift generated by a transmitter in motion. The returned signal will be analyzed for spectral content to produce a two dimensional image.

**ARL/Army Benefit:** Will provide a foundation for the design and modification of a system capability of providing long range ground based radar imaging and targeting.

**Background Required:** Experience with MATLAB scripting required. Preferred Signal processing, Simulink, familiarity with radar system and electromagnetic wave propagation.

**Security clearance required:** None.

**Capacity:** 1 Cadet.

**Duration:** Minimum of 4 weeks. No maximum.

**Block Preference:** None