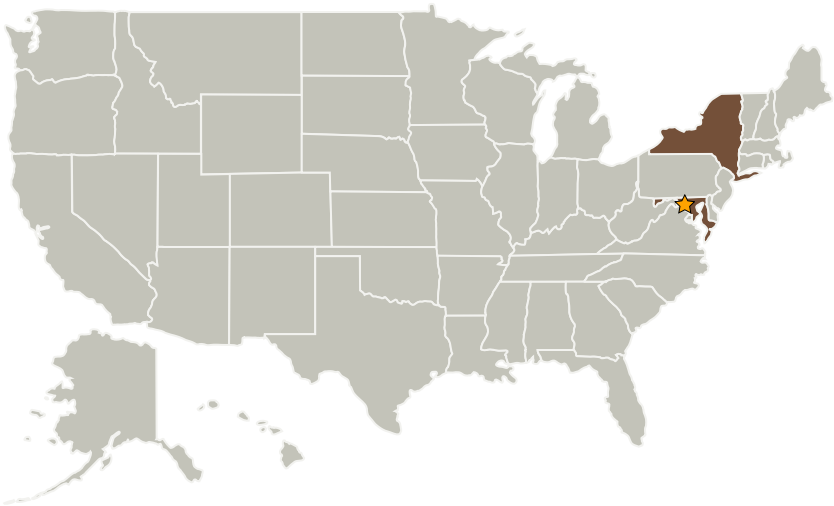
SiC Avalanche Photodiodes and Arrays, Phase I

Completed Technology Project (2008 - 2008)

Project Introduction

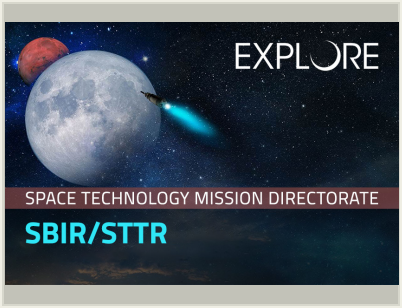
Aymont Technology, Inc. (Aymont) will demonstrate the feasibility of SiC p-i-n avalanche photodiodes (APD) arrays. Aymont will demonstrate 4 x 4 arrays of 2 mm2 APDs for visible-blind high-sensitivity UV detection. These arrays will exhibit high gain (10^6), high quantum efficiency (peak < 50%), and high speed (). They will demonstrate scalability, allowing for larger arrays (20 x 20) in Phase 2. They will give nearly 2x the quantum efficiency of other solid state solutions such as Si at UV wavelengths.

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
★Goddard Space Flight Center(GSFC)	Lead Organization	NASA Center	Greenbelt, Maryland
Aymont Technology, Inc.	Supporting Organization	Industry	Ballston Spa, New York

Primary U.S. Work Locations	
Maryland	New York



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Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Center / Facility:

Goddard Space Flight Center (GSFC)

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

Project Management

Program Director:

Jason L Kessler

Program Manager:

Carlos Torrez

Principal Investigator:

Larry B Rowland

Technology Areas

Primary:

- TX08 Sensors and Instruments
  └ TX08.1 Remote Sensing Instruments/Sensors
    └ TX08.1.1 Detectors and Focal Planes