Center Independent Research & Development: JPL IRAD

Rad-tolerant Low Power Avionics for Deep Space Small Spacecraft

Completed Technology Project (2015 - 2016)

Project Introduction

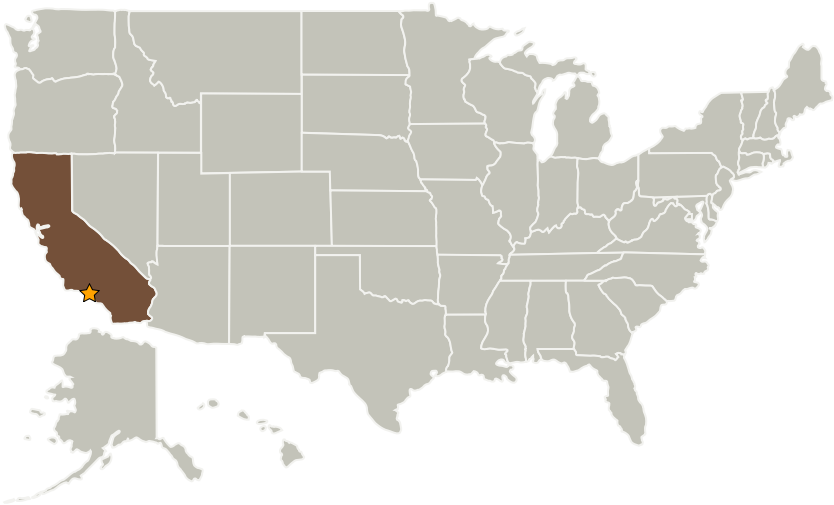
The challenge of this task is to develop radiation hard, low power, low mass avionics platform integrated with GN&C and power for small spacecraft.

This task will develop a low power, low mass and radiation tolerant integrated avionics platform for small spacecraft applications.

Anticipated Benefits

This technology •Provides flagship-class processing and throughput and memory at small spacecraft power & mass •8X CPU performance over RAD750, 20X throughput •Low mass/power, 5 Kg, 10W •Provides integrated C&DH, power, GN&C and telecom •Support flagship science capabilities

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
★Jet Propulsion Laboratory(JPL)	Lead Organization	NASA Center	Pasadena, California

Primary U.S. Work Locations
California

Project Image Rad-tolerant Low Power Avionics for small spacecraft

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Images

Rad-tolerant Low Power Avionics
Project Image Rad-tolerant Low Power Avionics for small spacecraft
(https://techport.nasa.gov/image/26095)

Organizational Responsibility

Responsible Mission Directorate:

Mission Support Directorate (MSD)

Lead Center / Facility:

Jet Propulsion Laboratory (JPL)

Responsible Program:

Center Independent Research & Development: JPL IRAD

Project Management

Program Manager:

Fred Y Hadaegh

Project Manager:

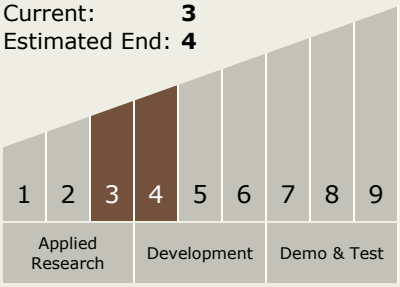
Fred Y Hadaegh

Principal Investigator:

William D Whitaker

Technology Maturity (TRL)

Start: **3**
Current: **3**
Estimated End: **4**



Technology Areas

Primary:

- TX02 Flight Computing and Avionics
  - └ TX02.2 Avionics Systems and Subsystems
    - └ TX02.2.4 Low Power Embedded Computer Systems