

Capabilities Brief

Overview

Since 1976, Research Support Instruments (RSI) has provided research and development services, systems engineering, and technical support services to government and industry customers. Headquartered with facilities in Maryland near the Naval Research Laboratory (NRL).

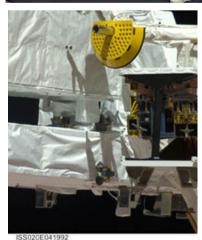
Aerospace. Systems Engineering. Optics Calibration. Plasma Physics. Laser Acoustics.

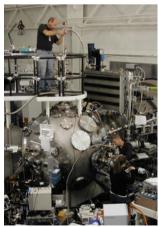












RSI Capabilities

End-to-End Systems Science/Engineering

- Concept Design
- Initial Technology/Cost **Studies**
- **Procurement Support**
- Vendor Liaison/Interface
- Payload Integration & Calibration
- Operational Planning
- Launch Support
- Ground Support
- Mission Operations
- Data & Image Analysis
- Publication

Specialties

- Imaging Systems
 - Hyper- & Multi-Spectral Imagers
 - Imaging Sensor Development
 - Sparse Aperture **Optical Systems**
 - Image Processing

- LIDAR/LADAR
- Spectrometers
- Interferometers
- Optical Metrology
- · Custom Optic Design
- **Contamination Control**

RSI Space Program Experience

- PSP TICAS
- Clementine • SWF0
- LACE

TOPEX

- PUNCH
- RIT
- JMAPS

HREP

- NEMO SSULI
- TacSat-4 MSX
- **Special Applications**
- Wide-Area UHF System
- Payload Design
- **CONOPS**
- **User Experiments**
- Earth Mapping System
- System Architecture
- Optical Specification
- **Detector Specification**
- · Collection CONOPS

Hypersonics

- Spark Plasma Sintering (aka Direct Current Sintering) for producing CMC (Ceramic Matrix Composites).
- Chemical Vapor Infiltration (CVI) unit to produce Hafnium Carbide.
 - These projects will involve production, safe handling of byproducts (hydrofluoric acid), and sample characterization by DSC/TGA, X-ray diffraction, SEM/XPS/XRF, thermo-mechanical testing, and combustion chemical analysis.
- Tube furnace for high temperature (1800 C) oxidation studies(Argon/Oxygen) for high-temperature ceramics and metal alloys.