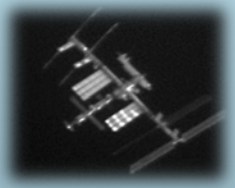
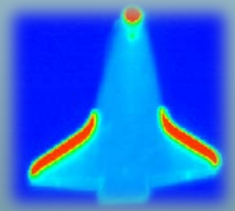
Apr 28th, 8:00 AM

Vision Engineering

John Stryjewski
Vision Engineering Solutions





Vision®
Engineering Solutions

Our Mission

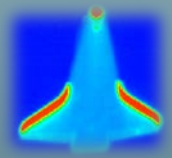
Vision Engineering provides state-of-the-art imaging and sensing solutions for aerospace, security and industrial applications.

April, 2015

Advanced Imaging and Sensing
Modeling and Simulation
Data Collection and Analysis
Pointing and Tracking Systems

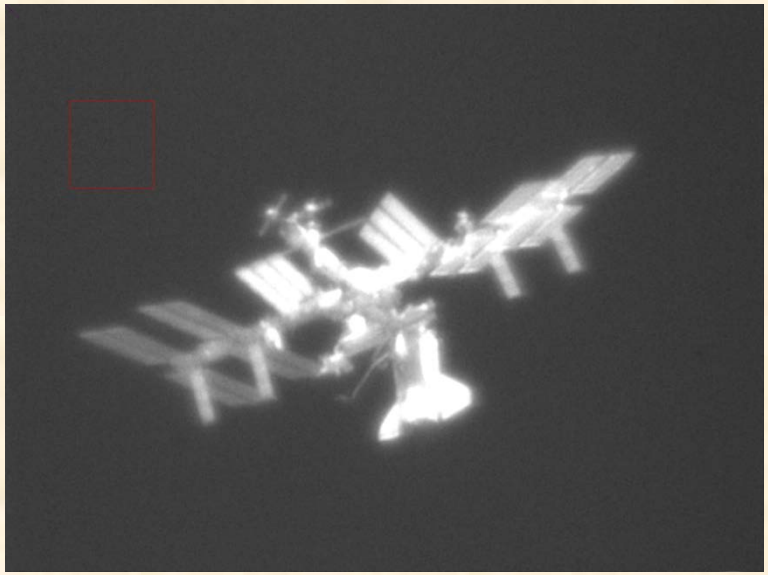
Imaging and Sensing *Solutions*

Vision®
Engineering Solutions


Complete Sensing Solutions

- Precision tracking gimbals
- Gimbal control systems
- Telescopes and optics
- Sensor design
- Data collection systems



Data Collection and Analysis

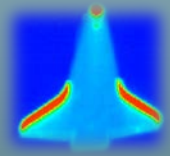
- Long range sensing
- Space objects
- Space launches
- Artillery and mortars
- Aircraft and UAVs

If it moves, we can track it!

Advanced Imaging and Sensing
Modeling and Simulation
Data Collection and Analysis
Pointing and Tracking Systems

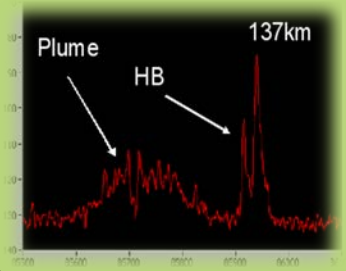
Products and Services

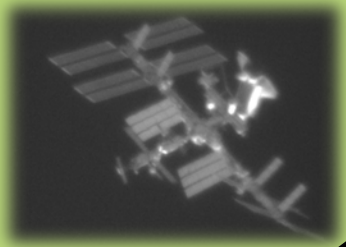
Vision®
Engineering Solutions



Advanced Imaging and Sensing
Modeling and Simulation
Data Collection and Analysis
Pointing and Tracking Systems

Data Collection and Analysis Services

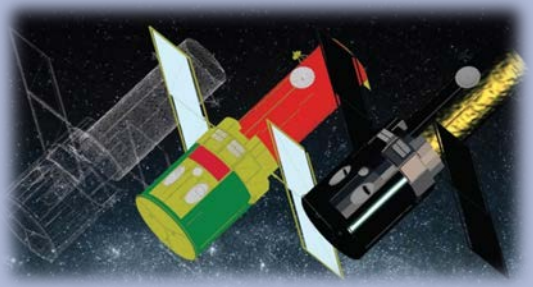




Sensor and Data Recording System

Imaging Sensing Solutions

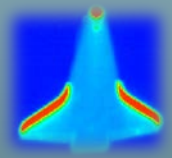
New or Upgraded Gimbal Systems



Modeling and Simulation Services

Products and Services

Vision® Engineering Solutions



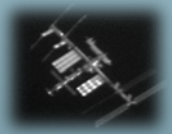
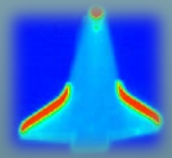
- **Tracking Mounts**
  - Large transportable trackers
  - New or refurbishments
  - Direct drive motors
  - Precision encoders
  - **Inertial stabilization**
- **Control Software**
  - Digital servo system
  - **Custom user interfaces**
  - Manual and auto drive modes
  - Star calibrations
  - External designation inputs
- **Integrated Digital Video**
  - Custom video display SW
  - Real-time video enhancement
  - **Integrated video tracking**
  - Remote display capability
- **Laser Systems Support**
  - Coude paths
  - **Integrated laser safety system**

New or Upgraded Gimbal Systems

Advanced Imaging and Sensing
Modeling and Simulation
Data Collection and Analysis
Pointing and Tracking Systems

Products and Services

Vision®
Engineering Solutions

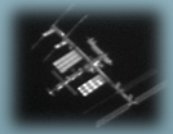

Advanced Imaging and Sensing
Modeling and Simulation
Data Collection and Analysis
Pointing and Tracking Systems

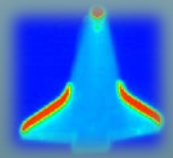
Sensor and Data Recording System

- **Imaging Sensors**
  - **UV through LWIR**
  - Polarimetric Sensors
  - Multi-spectral sensors
- **Non-imaging sensors**
  - **Calibrated Radiometric sensors**
  - Polarimetric
  - Spectral
- **Optical design and testing**
  - Lens and telescope design
  - Opto-mechanical systems
  - **Testing and validation**
- **Laser Systems**
  - Illuminators
  - **Active imagers**
  - Rangers, LADAR and LIDAR
- **Data Recording**
  - Real-time recording and display
  - **Digital video image tracking**
  - Embedded meta-data

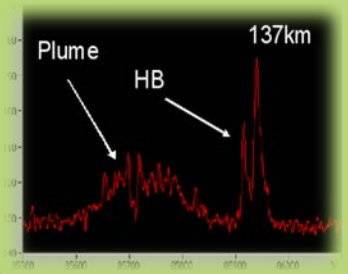
Products and Services

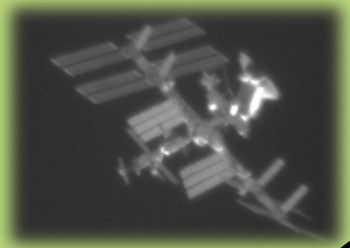
Vision®
Engineering Solutions



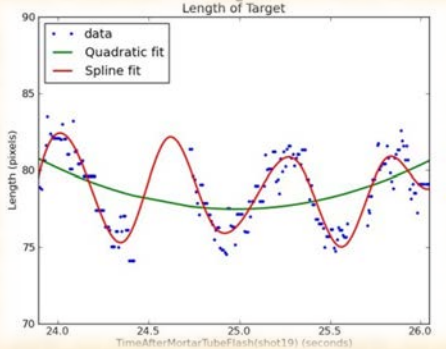


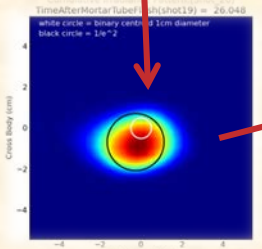
Data Collection and Analysis Services

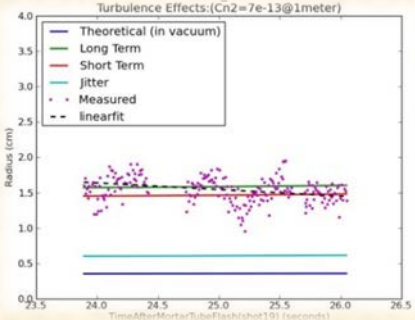




- **Image Data**
  - UV through LWIR
  - Polarimetric
  - Multi-spectral
  - Radiometrically calibrated
  - Image metrics
  - Thermal Imagery
- **Non-imaging Sensor Data**
  - High-speed radiometers
  - Calibrated radiometry
  - Atmospheric characterization
- **Laser Data**
  - Laser illumination
  - High Energy Lasers (HEL) negations
  - Doppler LADAR, LIDAR, ranging



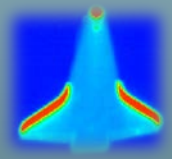




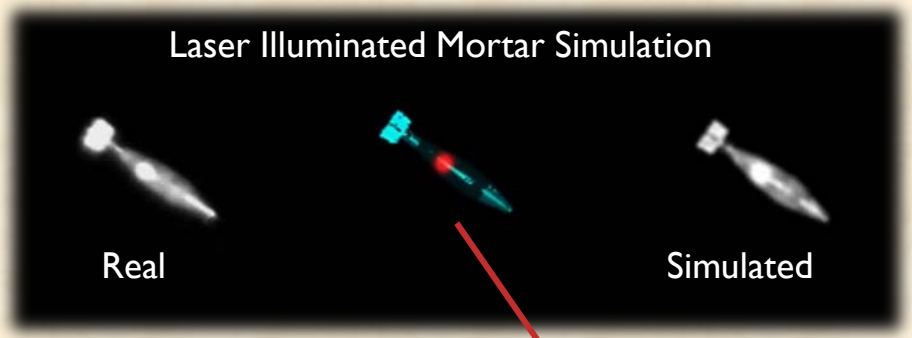
Advanced Imaging and Sensing
Modeling and Simulation
Data Collection and Analysis
Pointing and Tracking Systems

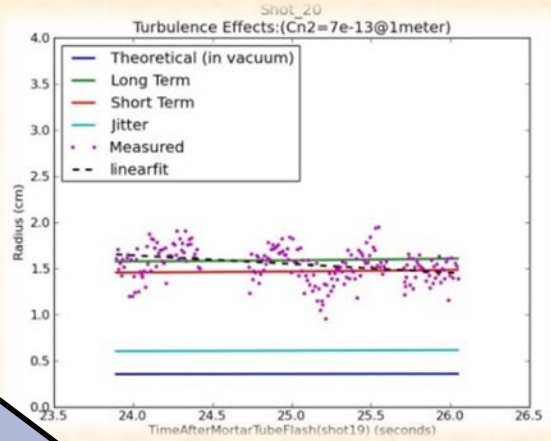
Products and Services

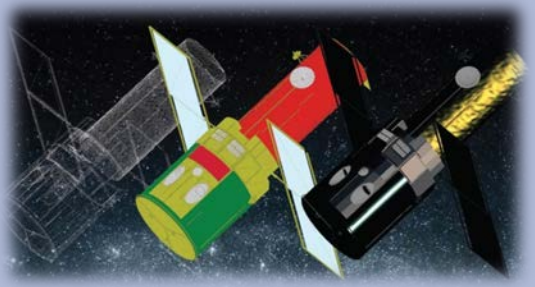
Vision® Engineering Solutions



- **High-Fidelity Electro-Optical Modeling and Simulation**
  - Physically rigorous
  - Radiometrically accurate
  - Experimentally Validated
  - **Real-time**
- **Target Modeling**
  - 6-DOF dynamics
  - **Materials, BRDFs and BEDFs**
  - Complex Shapes
- **Sensor Systems**
  - **Laser sensors and illuminators**
  - UV through LWIR imaging
  - Polarimetric Sensors
- **Atmospheric Effects**
  - **Turbulence**
  - Extinction







Modeling and Simulation Services

Advanced Imaging and Sensing
Modeling and Simulation
Data Collection and Analysis
Pointing and Tracking Systems