



ANGSTROM
DESIGNS

Orbital Electronics Lab

International Space Station – Solar Cell Test Facility

Now Accepting Solar Cells Through August 2024 for MISSE-21 Flight

Orbital Electronics Lab (OEL):

Solar Cell IV Testing on ISS

Aegis Aerospace's commercial space testing as a service (STaaS™) now includes solar cell testing and calibration capability provided by Angstrom Designs. Successful solar cell production and deployment for space applications depends on realistic, zero-atmosphere solar simulations. OEL provides a consistent, completely turnkey way to perform advanced testing and calibration for solar panel integrators and photovoltaic (PV) researchers in low Earth orbit (LEO). In addition, everything flown on the OEL is returned from orbit enabling the customer to conduct post-flight analyses – further advancing a robust understanding of the technology's performance. The STaaS™ platform enables customers to reduce risk, increase Technology Readiness Level (TRL), obtain flight heritage, perform basic science, and obtain easy, consistent, rapid access to space at a reasonable price. Commercial and easy government contracting is available. Contact Aegis Aerospace or Angstrom Designs for pricing and details.

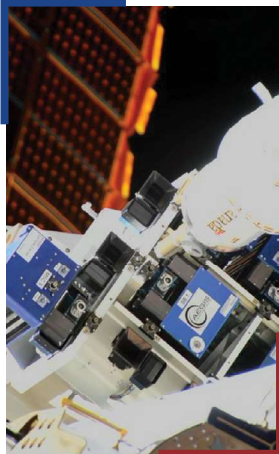
MISSE-21 Mission Timeline:

- Aug 2024: Send your cells mounted on provided holders
- Feb 2025: Launch to ISS
- April 2025: 1st of 6 monthly data deliveries
- Jan 2026: Receive your cells back

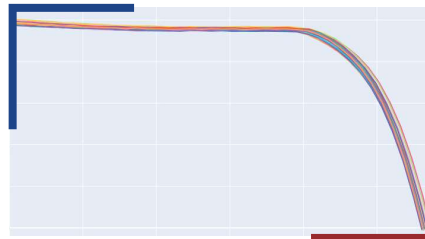
BENEFITS

- Easy regular access to orbital testing
- Minimum of 6 months outside ISS, with 2 missions each year
- Solar cell IV curves
- Temperature measurement
- Leverages AMU flight heritage
- Get solar cells back from orbit
- Understand combined effects with long exposure to LEO environment: atomic oxygen, thermal cycling, radiation, etc.
- Direct sun pointing for over 150 orbits (± 5 degree beta angle)
- Many IV, Isc, Voc, temperature measurements per orbit
- Any cell size: 2x2cm, 1-per or 2-per cells from 10cm (4") or 15cm (6") wafers, custom sizes
- Increase TRL and obtain flight heritage
- Turnkey – focus on your technology
- Mount cells on OEL holders and ship

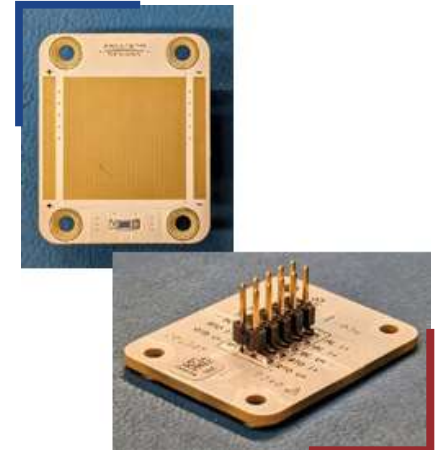
MISSE on ISS



IV Curves on ISS



OEL Solar Cell Holder



Are you ready to fly with Aegis Aerospace and Angstrom Designs?

<https://aegisaero.com>

<https://angstromdesigns.com>

OEL - Specifications

Learn more about the technical capabilities of OEL.

TECHNICAL CAPABILITY	OEL	NOTES
Cell Measurements	IV, Isc, Voc	MP, FF, ... extracted from IV
Broad Measurement Range	Max Isc = 1 A, Max Voc = 10V	Higher custom ranges available
Sun Angle Modelling	< 0.5 degree	
Approx Orbits with < 5 Deg Pointing	150	
Cell Sizes	2x2cm, 1-per or 2-per from 4" or 6" wafers, custom	Wide range of custom options are available
Number of IV Curve Points	2 – 80	
Images of Exposed Samples (Visible & IR)	Monthly	Higher frequency optional
Custom Measurement Algorithms	Yes	MPPT, Forward/Reverse IV Sweeps...
Environmental Data		
Temperature Data	Yes	
Contamination Exposure Data	Yes	
Total Ionizing Dose Radiation Exposure	Optional	
Ultraviolet Exposure Data	Optional	
Atomic Oxygen Exposure Data	Optional	
Orbital Orientation	Zenith	Ram, Wake, or Nadir option

ABOUT the Aegis Aerospace & Angstrom Designs Collaboration

Aegis Aerospace and Angstrom Designs have joined forces to offer a transformative technology testing platform that will act as a catalyst for the solar industry. Driving new insights and propelling the solar industry into the future.



ABOUT Aegis Aerospace Inc.

Aegis Aerospace Inc. is a Hispanic woman-owned small business headquartered in Houston, Texas that provides technical services and turn-key solutions to commercial, civil, academic and DoD customers in the space and defense industries. Our unique STaaS™ business model enables our partners to focus entirely on developing their technology, while we do the rest.

www.AegisAero.com



ABOUT Angstrom Designs

Angstrom Designs is an instrumentation, automation, test, and measurement small business located in Santa Barbara, CA that provides products, services and solutions to NASA, DoD, commercial and academic customers in the space and defense industries. Angstrom Designs has a proven partnership with government and industry in space power.

www.AngstromDesigns.com



Are you ready to fly with us?