

AEROSPACE & SPACE · SOLAR PHYSICS INSTRUMENTATION

AXUV silicon photodiodes for spaceborne solar soft X-ray monitoring, from 0.0124 nm to 190 nm.

Flight-heritage detectors with quantum efficiency, Gigarad radiation tolerance, and segmented geometries including the AXUVPS7 for multi-channel, position-resolved measurements in solar instruments.

Mission Focused Application

FIG 1



AXUV platform qualified for spaceborne solar spectrometry

KEY FEATURES

- **0.0124–190 nm responsivity**
— soft X-ray through VUV, single silicon detector.
- **Response time / speed: 200 ns response time**
— absolute radiometric reference.
- **Gigarad (SiO₂) radiation hardness**
— ~10,000× standard PIN silicon.
- **AXUVPS7 quad geometry**
— 146 mm² total, 36.5 mm² per element, central aperture.
- **Nitrided-oxide front window**
— flight-proven on ESA & NASA solar programs.

APPLICATIONS

- Solar soft X-ray & EUV spectrometers
- Flare & coronal monitoring payloads

Spaceborn solar instruments must maintain absolute radiometric accuracy across soft X ray and EUV bands while surviving launch vibration, thermal cycling, and years of particle and VUV exposure. Standard PiN silicon detectors often drift or degrade rapidly in this environment. Even minor changes in detector responsivity can introduce measurement error that affects long term solar trend analysis and calibration confidence. This makes detector stability, repeatability, and resistance to environmental stress critical for any mission focused on reliable solar monitoring.

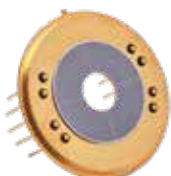
Opto Diode AXUV photodiodes manufactured in Camarillo, CA, deliver 100% internal quantum efficiency from 0.0124 to 190 nm and offer gigarad radiation tolerance. This platform has flown on SOHO, GOES, EOS, SDO, and CORONAS PHOTON, with segmented options available for reference channels and tailored instrument designs. Their broad spectral response makes them well suited for demanding solar observation and space based radiometry applications. Combined with strong radiation hardness and proven flight heritage, they provide a reliable solution for long duration missions operating in harsh environments.

FEATURED GEOMETRY & SPECTRAL RESPONSE

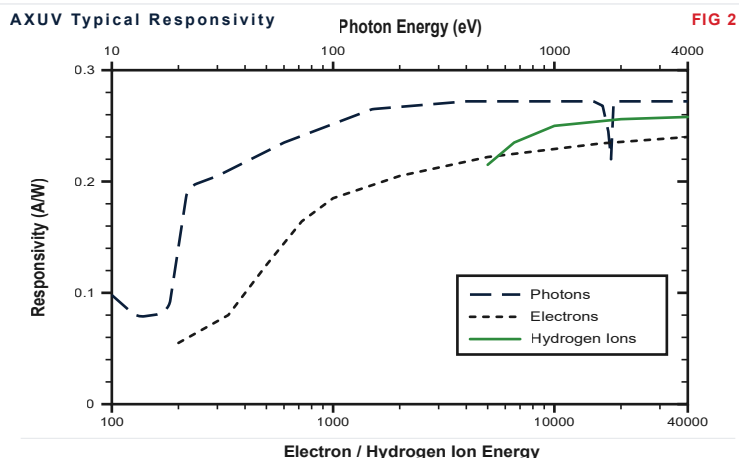
AXUV · SEGMENTED DETECTOR

AXUVPS7

Quad detector with central aperture



TOTAL AREA	146 mm ²
PER-ELEMENT	36.5 mm ²
PHOTON / ELECTRON	0.0124–190 nm / 100 eV–50 keV



NEXT STEP

Contact Opto Diode to discuss the right AXUV photodiode solution for your space based solar instrumentation requirements.

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