

SPECTRAL EVOLUTION

Field Portable Spectroradiometer for Validating AVIRIS-NG

Looking for a spectroradiometer that can be used with data from the Airborne Visible-Infrared Imaging Spectrometer – Next Generation (AVIRIS-NG)? AVIRIS-NG is a unique optical sensor that delivers calibrated images of the upwelling spectral radiance in 224 contiguous spectral channels (bands) with wavelengths from 400 to 2500 nanometers with a 5nm sampling. The main objective of the AVIRIS-NG project is to identify, measure, and monitor constituents of the Earth's surface and atmosphere based on molecular absorption and particle scattering signatures. Research with AVIRIS-NG data is predominantly focused on understanding processes related to the global environment and climate change. Most recently, AVIRIS-NG has been used for measurements spanning coastal zone, mangrove forest, soils, hydrocarbon alteration, mineralogy and other application areas.



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SR-6500 ultra-high resolution/high sensitivity spectroradiometer

The SR-6500 is a full range system that meets this high spectral resolution requirement. The SR-6500 is calibrated for radiance with NIST-traceable standards. It features superior resolution at FWHM:

- 1.5nm @ 700nm
- 3.0nm @ 1500nm
- 3.8nm @ 2100nm

Ultra-high resolution is achieved using three high density solid state thermoelectrically cooled photodiode arrays:

- 1024 element TE-cooled silicon photodiode array detector (VIS-NIR)
- 512 element TE-cooled InGaAs photodiode array detector (SWIR 1)
- 512 element TE-cooled extended InGaAs photodiode array detector (SWIR 2)

The SR-6500 features the following Noise Equivalence Radiance (NER) sensitivity with a 1.5 meter fiber optic:

- 1.0×10^{-9} W/cm²/nm/sr @ 400nm
- 2.8×10^{-9} W/cm²/nm/sr @ 1500nm
- 6.8×10^{-9} W/cm²/nm/sr @ 2100nm

The SR-6500 is available with optional EZ-ID sample identification software with three mineral spectral libraries for soil analysis and mineral identification. A Custom Library Builder module allows you to build your own library by scanning known samples and saving these high resolution scans to match against.

1 Canal Street ♦ Unit B1
Lawrence, MA 01840 USA
Tel: 978 687-1833 ♦ Fax: 978 945-0372
Email: sales@spectralevolution.com
www.spectralevolution.com

