

SPECTRAL EVOLUTION

Using a Field Spectroradiometer for NASA's ABoVE Field Campaign

As part of its Terrestrial Ecology Program, NASA is conducting an 8-10 year Arctic-Boreal Vulnerability Experiment (ABoVE) field campaign conducted in Alaska and Western Canada focusing on environmental change and its effects on social-ecological systems. Climate change is unfolding faster in the arctic and boreal region, making it an ideal location for this study. The campaign links field-based studies with geospatial data products derived from airborne and satellite sensors, providing a foundation for improving the analysis and modeling capabilities needed to understand and predict ecosystem responses and societal implications.

The arctic provides a fertile ground for studying climate changes as sea ice melts, permafrost thaws, wildlife habitat changes and there are widespread changes to soil and vegetation.

Spectral Evolution has several spectroradiometers that are well-suited to help researchers participate in this campaign. The SR-6500, PSR+, RS-8800, RS-5400 and RS-3500 are full range (350-2500nm), high resolution/high sensitivity spectroradiometers designed for the field. They are light-weight, rugged and reliable with no moving optical components and battery power for a full day of scanning in the field. They are available with a wide range of accessories including a contact probe, benchtop probe, pistol grip, and unique leaf clip. These spectroradiometers can be used for soil analysis, vegetation studies, snow and ice albedo measurement or ground truthing and validating flyover and satellite data. They are all equipped with DARWin SP Data Acquisition software that includes 19 vegetation indices and saves all data as ASCII files for use with other analysis software.

Some of the ABoVE research projects will be working with AVIRIS NG data and can benefit from the ultra-high resolution of the SR-6500 field spectroradiometer. The SR-6500 has a spectral range of 350-2500nm and resolution is:

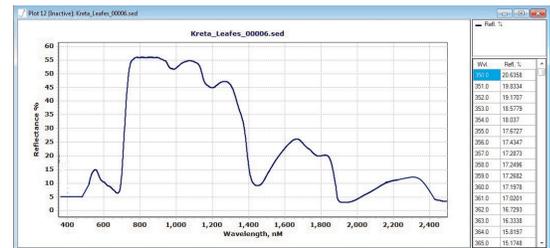
- 1.5nm @ 700nm
- 3.0nm @ 1500nm
- 3.8nm @ 2100nm

The SR-6500 is designed to match the capabilities of AVIRIS-NG.

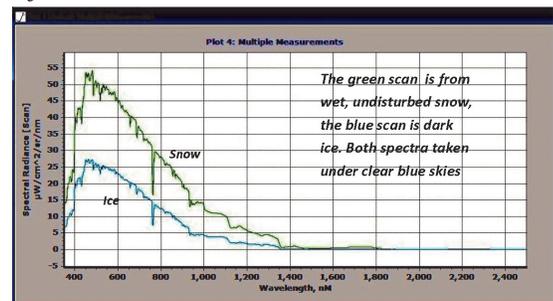
26 Parkridge Road ♦ Suite 104
Haverhill, MA 01835 USA
Tel: 978 687-1833 ♦ Fax: 978 945-0372
Email: sales@spectralevolution.com
www.spectralevolution.com



SPECTRAL EVOLUTION PSR+ is well-suited for field scanning of vegetation with either a direct attached lens or fiber optic and FOV lens, contact probe or leaf clip.



A leaf scan taken with the PSR+ in the field.



Ultra-high resolution SR-6500

