

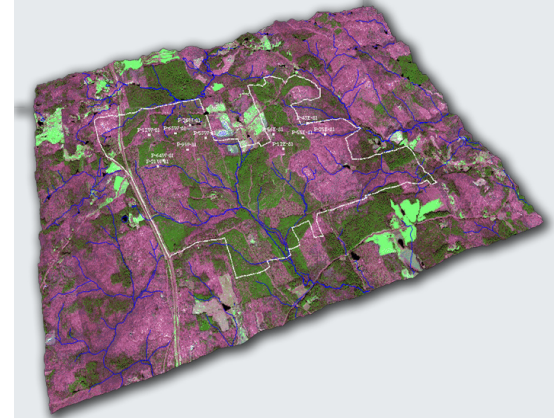
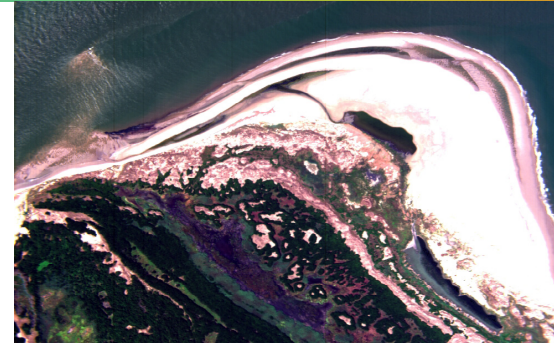
Hyperspectral imaging, also known as chemical sensing, affords researchers and biologists unique opportunities to conduct both airborne and stationary spectral analysis for remote sensing applications. Airborne hyperspectral imaging represents an established remote sensing technique for capturing important spectral data critical to remote sensing applications.

Within the field of view of the sensor, hyperspectral imaging simultaneously yields precise information for all wavelengths across the complete spectral range available. With the creation of the hyperspectral datacube, a data set that includes all of the spatial and spectral information, researchers are able to generate and analyze in-depth environmental spectral imaging data.

Imaging performance is optimized with Headwall's patented, aberration-corrected sensor. Key advantages of hyperspectral imaging for environmental researchers and engineers include:

- Derive the spectral signature for every point within the field of view of the Hyperspec™ sensor
- Color render the image within the field of view based on an established library of known spectral signatures
- Rapidly scan the scene or interrogate the datacube for specific threshold values for key wavelengths of interest

The utilization of custom-designed diffraction optics within the Hyperspec™ sensor enables the configuration of highly optimized hyperspectral imagers covering broad spectral regions required by the remote sensing application. With Headwall's Hyperspec™ imaging product family, remote sensing spectral analysis can be conducted via airborne platforms or from Headwall's stationary "pan & tilt" sensors or "point & stare" configurations..



Airborne Monitoring

Civil & Environmental Engineering

Pollution Detection

Forestry Management

Precision Agriculture

Mineral Exploration

Headwall's award-winning Hyperspec™ imaging spectrometer family is built on a totally reflective concentric, f/2.0 optical design and optimized for imaging in harsh environments. All Hyperspec™ instruments are based on Headwall's patented aberration-corrected, imaging design which feature the company's "original", high efficiency holographic gratings or diamond-turned diffraction gratings. To achieve very low stray light and high signal-to-noise performance, no prism or transmissive optics are used within the spectrometer. With Headwall's unique ability to design and fabricate the diffractive optics, each fully integrated Hyperspec™ imaging sensor is manufactured with application-specific, spectral and spatial imaging performance.

Headwall Photonics offers the broadest range of spectral imaging instrumentation for demanding applications.

Hyperspectral Sensors	Spectral Range
Hyperspec® VIS	380 - 825 nm
Hyperspec® VNIR	400 - 1000 nm
Hyperspec® Extended VNIR	600 - 1600 nm
Hyperspec® NIR	900 - 1700 nm
Hyperspec® SWIR	1000 - 2500 nm
Micro-Hyperspec™ VNIR	400 - 1000 nm
Micro-Hyperspec™ NIR	900 - 1700 nm
High Efficiency Hyperspec® NIR	900 - 1700 nm
High Efficiency Hyperspec® SWIR	1000 - 2500 nm



Information on UV, MWIR, and LWIR Hyperspec® sensors are available upon request.

Raman Imaging Instruments

- Raman Explorer™ 260 nm
- Raman Explorer™ 532 nm
- Raman Explorer™ 785nm
- Raman Explorer™ 830 nm
- Raman Explorer™ 1064 nm
- Raman Discovery™ 532 nm
- Raman Discovery™ 785 nm



About Headwall Photonics:

Headwall Photonics is the leading designer and manufacturer of imaging spectrometers and spectral instrumentation for industrial, commercial, and government markets. Headwall's high performance spectrometers, spectral engines, and holographic diffraction gratings have been selected by OEM and end-user customers around the world for use in critical application environments. As a pioneer in the development of innovative spectrographs and imaging spectrometers based on optical technologies, Headwall enjoys a market leadership position through the design and manufacture of patented spectral instrumentation that is customized for application-specific performance. Headwall Photonics was formed in 2003 as the result of a management buy-out from Agilent Technologies. **For more information please call 978.353.4100 or email us at Information@HeadwallPhotonics.com.**



Headwall Photonics • 601 River Street • Fitchburg, MA 01420 • 978.353.4100 tel • www.HeadwallPhotonics.com

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