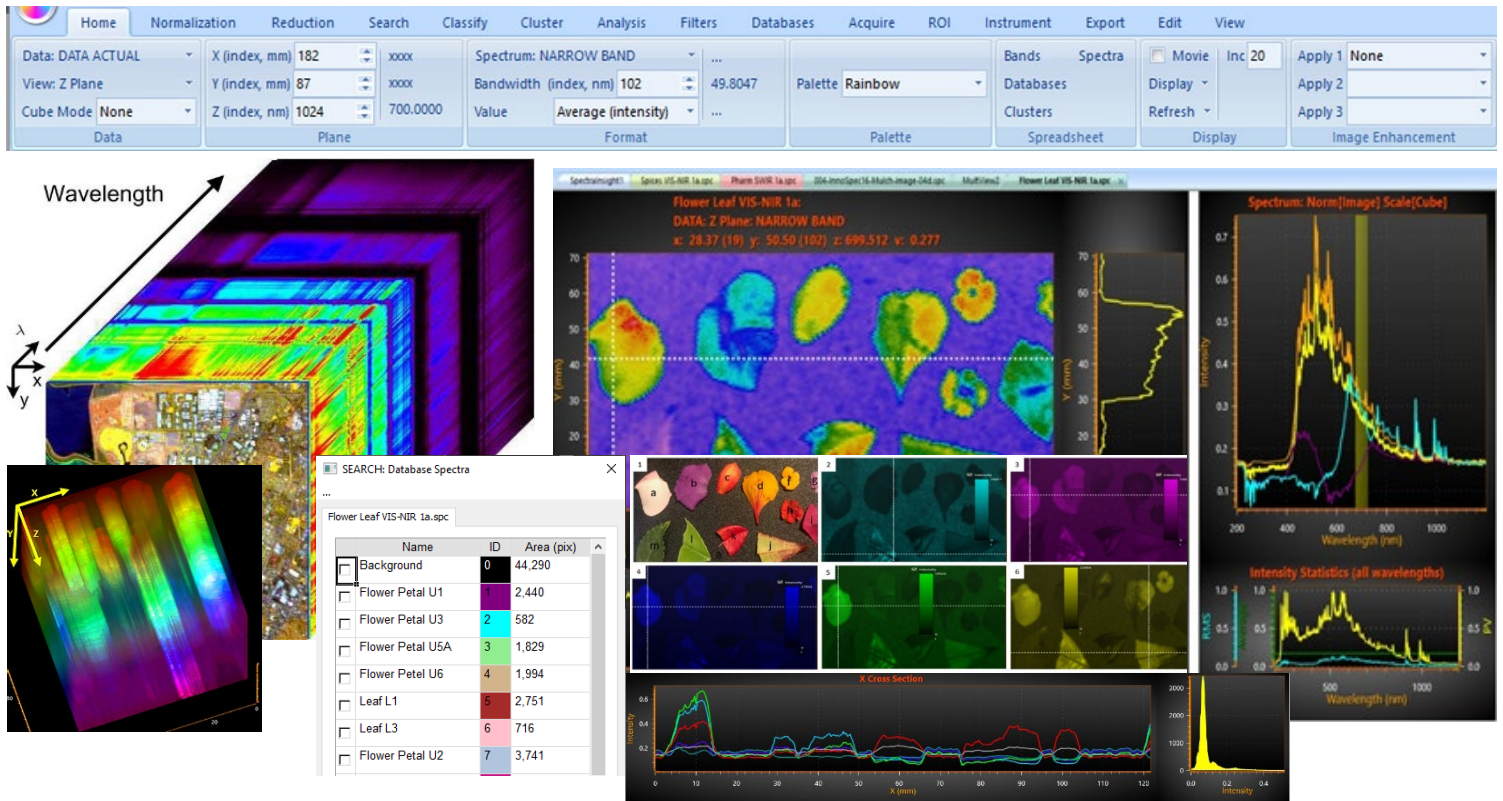


SPECTRA INSIGHT SOFTWARE



Hyperspectral imaging is an advanced spectroscopic technique that captures the spectral signature of each pixel in an image across hundreds of continuous spectral bands. This provides much richer information than conventional RGB or multispectral imaging. The hypercube data structure enables analysis across both the spatial and spectral dimensions to identify, measure, and map materials in a non-contact and non-destructive manner.

Applications of hyperspectral imaging are wide-ranging, from agriculture and food safety to medical imaging and cultural heritage. The high spectral resolution facilitates detection of subtle spectral signatures for precision identification and quantification. Both lab-based and field-deployable systems are empowering users with deeper insights across industries.

Spectra Insight: Revolutionizing Hyperspectral Data Analysis Spectra Insight is an industry-leading software that unlocks the potential of hyperspectral data through AI-powered analytics. Key capabilities include:

- Spectral similarity search across hypercubes and databases for material identification
- Clustering and classification tools for hyperspectral scene analysis
- Advanced visualization including 1D spectral plots, 2D false color maps, and interactive 3D hypercube rendering
- Parallel processing and GPU optimization for efficient analysis of large datasets
- Continuous innovation via cutting-edge algorithms and machine learning techniques

By leveraging Spectra Insight's powerful hyperspectral data analysis toolkit, users can automate analysis workflows, uncover hidden insights, and generate actionable information across various applications. The future-ready architecture ensures that analytical capabilities evolve in line with algorithmic advances and hardware innovations.

Let Spectra Insight take your hyperspectral imaging to the next level! Get in touch for a demo of our transformative software today.

Data Acquisition / Data Import

- Area Point Scan, Area Line Scan, Snapshot hyperspectral acquisition.
- Interface to virtual any hyperspectral camera or scanner
- Import from a variety of native and 3rd party file formats.

Visualization

- Thousands of spectral image bands displayed in 1D, 2D, 3D charts.
- Analyze entire bands, selectable regions, and individual pixels.
- View all X, Y, and Z Hypercube planes in 2D or 3D
- Unique color palettes for all spectral regions (UV to FIR).

Normalization

- Spectral normalization using industry standards or other spectral data

Reduction

- Data reduction for high-speed processing.
- Boxcar, Polynomial, and Principal Component Analysis data reduction

Identification

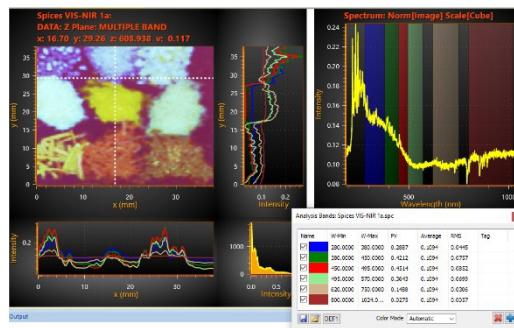
- Similarity search across images and databases.
- Unsupervised Spectral Clustering
- Supervised AI Spectral Classification

Advanced Capabilities

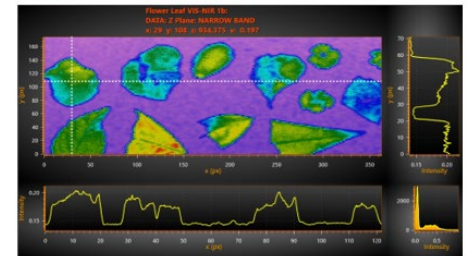
- AI features for fast substance detection.
- *Parallel processing using all available CPUs/GPUs.*
- *Simple powerful Ribbon Interface.*
- *New features added upon request.*
- *Available as a full application or a SDK.*

Spectral Databases

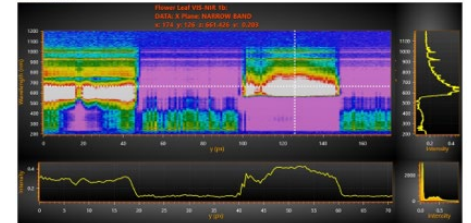
Multiple Band Analysis



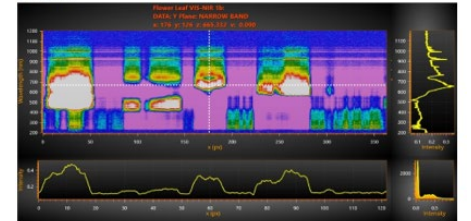
Z Plane



X Plane



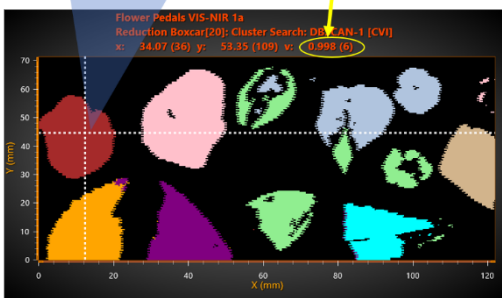
Y Plane



Principle Component Analysis



Cluster Score and (ID) are display at the crosshair position.



Search/Clustering/Classification