



montaj 256-Channel Radiometrics Processing

montaj Extension developed by Geosoft

The montaj™ 256-Channel Radiometrics Processing extension enables geoscientists to process and visualize 256 channel spectrometer data. There are three main phases in airborne spectrometer data handling – acquisition, processing and presentation. This extension is designed specifically for processing raw data collected from airborne surveys. In addition, to radiometric processing capabilities, this extension provides 1D non-linear filters to locate and remove data that is recognized as noise. Sophisticated vector-postscript drivers export to common graphics applications such as Adobe Illustrator and CorelDraw. Output is clean and layered allowing for easy selection and editing. Other output formats include CGM, DXF, and Geosoft plot files.

1D Non-Linear Filters

The 1D Non-Linear Filter is ideal for removing very short wavelength, but high amplitude features from data. It is often thought of as a noise spike-rejection filter, but it can also be effective for removing short wavelength geological features, such as signal from surficial features.

The 1D Non-Linear Filter is used to locate and remove data that is recognized as noise. The algorithm is ‘non-linear’ because it looks at each data point and decides if that data is noise or a valid signal. If the point is noise, it is simply removed and replaced by an estimate based on surrounding data points. Parts of the data that are not considered noise are not modified.

Radiometric Processing

- Import raw 256-channel data into an array channel,
- Window full spectrum data to create channels for K, U, TH, and TC,
- Correct raw data for instrument deadtime, apply filters to average data and improve statistics, and correct survey altitude to Standard Temperature and Pressure (STP),
- Remove background contributions from aircraft radioactivity, cosmic radiation and atmospheric radon,
- Correct data by removing spectral overlapping (stripping) and height attenuation effects, and converting data to apparent radioelement concentrations,
- Calculate radioelement concentration ratios.

*The montaj 256-Channel Radiometrics Processing extension requires Geosoft's Oasis montaj.



Use the montaj 256-Channel Radiometrics Processing Extension to:

- Import full spectra (i.e. arrays) of radiometric data using an Import Wizard,
- Display full “spectra” as profiles in a column of the database,
- View individual windows of spectra in database columns,
- Window K, U, Th and Total Count values simultaneously and store in unique columns,
- Window individual K, U, Th and Total Count values individually and store in a column,
- Subset spectra using sample ranges (i.e. to evaluate sub-windows) within individual spectra,
- Process windowed data using the standard reduction capabilities in the RPS system, Intermediate and Advanced options are available that provide greater flexibility of model geometry, speed the modeling process, and further constrain modeling variables.

Key Functionality

- 1D Non-Linear Filters,
- Radiometric Processing Functions.