



**Mineral
Liberation
Analysis**

AMICS Software

Advanced Mineral Identification and Characterization System

The Advanced Mineral Identification and Characterization System (AMICS) is the latest software package for automated identification and quantification of minerals and synthetic phases. The key of this package lies in its innovative imaging and analysis software capabilities. It enables Bruker's QUANTAX energy dispersive X-ray spectrometers (EDS) systems on selected scanning electron microscopes (SEM) to become a fully automated mineral liberation analyzer.

The AMICS software is a forward-thinking quantitative analysis system. Its versatility makes it ideal for use in both earth and material science research and industry applications. It was developed by the highly qualified and experienced development

team lead by Dr. Ying Gu, who invented the Mineral Liberation Analyzer (MLA) in the 1990's.

Key Features

- Measurements based on BSE (backscattered electron) image
- Advanced image analysis allow particle segmentation, mineral boundary identification and particle separation
- Innovative mineral identification technology
- Comprehensive databases (2000 minerals) for quick and easy mineral identification
- Measure multiple samples autonomously

Benefits

The BSE image-based processing allows:

- fast particle detection and segmentation
- high quality particle discrimination
- reduced time from sample to result

For optimum data extraction, each point/pixel:

- is analyzed with EDS,
- is identified and classified as a mineral,
- can be reclassified offline.

AMICS provides custom ore groupings:

- configure the level of detail for reporting
- data can be easily exported and used in presentations

Applications

AMICS is useful for research and industries looking for fast, automated and high volume mineral phase identification. The speed of mineral liberation analysis results have enabled fast decision making in process mineralogy, which have led to dramatic process improvements.

For larger-scale mineral analysis in mining and geoscience, AMICS is also available for the Micro-XRF spectrometer M4 TORNADO.

How It Works

With AMICS, multiple sample measurements can be configured. Defining an area of interest for measurement is simplified by an overview image. AMICS then controls the EDS and SEM systems to automatically acquire images and spectra.

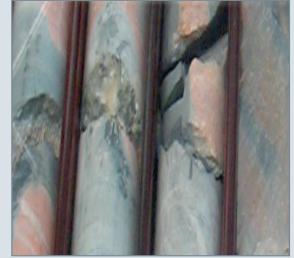
AMICS performs advanced image analysis on the high resolution backscattered electron (BSE) image from the SEM. This allows particle segmentation, mineral boundary identification and particle separation. The electron beam is controlled for the EDS system to acquire X-ray spectra.

The innovative mineral identification technology allows for the online classification of X-ray spectra to minerals and immediate access to data for quality control.

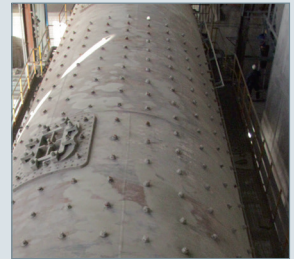
Through the intuitive user-friendly interface, the learning curve for this system is short. The fast analysis and calculation by use of latest computing and software technology ensure that effort to result is minimized. The relative error calculations for modal data provide confidence in the results.

Once the measurement is completed, AMICS automatically saves the data to the hard drive. From there, a number of visual data displays, including a particle grid, allow for results interpretation and reporting.

From exploration to liberation



1) Drill cores – modal mineralogy, association



2) Milling – grain sizing, liberation



3) Flotation – locking/ liberation and association

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