



Commercial software for microseismic processing, analysis and interpretation

DESIGN

Survey design tools to plan arrays and meet specific engineering objectives.

ACQUISITION

Data acquisition and processing with customisable triggering settings. Real-time options.

PROCESSING

Manual and automated waveform processing with efficient workflows. Complex velocity models and sophisticated algorithms for microseismic location.

INTERPRETATION

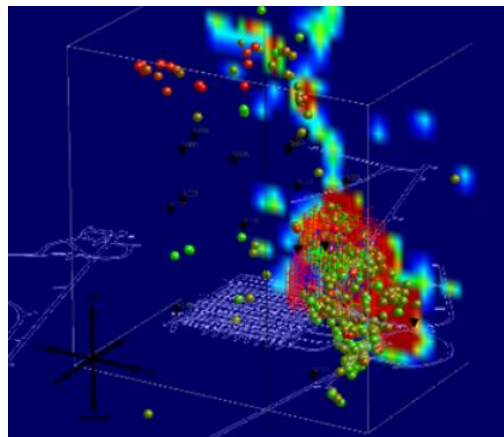
Full 3D visualisation of events and objects with intuitive movement through scene. Enhanced interpretation of microseismic clouds.

UNDERSTANDING

Improve understanding of mechanics with calculation and visualisation of moment tensors.

For more information on any of our products or services please visit us on the web at:

itasca.co.uk

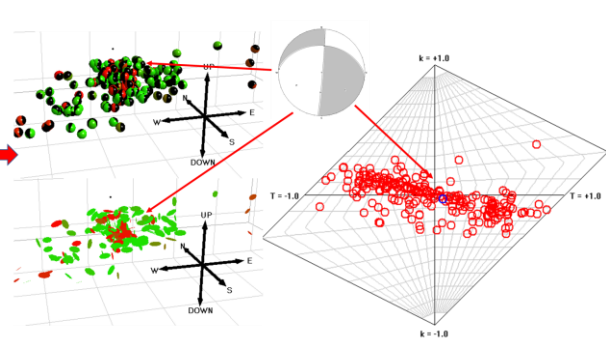
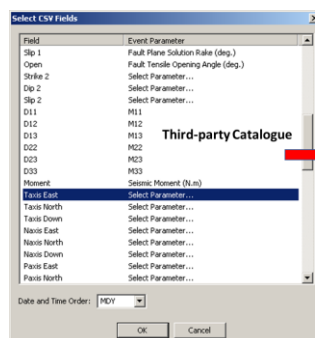


- Mining, induced seismicity, geotechnical, tunneling, engineering and other applications.
- Image, investigate and understand.
- Optimise workflows.
- Quality control of processing results.

InSite-Geo™ is an integrated data acquisition, management, processing, visualisation and interpretation software developed for seismological studies. Provides a solution for all seismology applications, ranging in scale from acoustic emissions in the laboratory, through microseismics around mining and petroleum fields, up to regional-scale earthquakes.

Manage your data with comprehensive import and export of raw and processed event data. Locate events through simple and complex velocity models. Carry out manual and automated waveform processing. Visualise seismic events, field objects, geological structures and analysis objects.

InSite-Geo™ is developed in a version controlled environment within a quality management system. InSite™ has been available as a commercial product for two decades and has been used by leading companies for quality assurance, post-processing, reprocessing and advanced analysis.



Software features and benefits

TECHNICAL SUPPORT

Annual Maintenance Support Program includes technical support, service updates, new tools, exclusive web content extensive documentation and full-version upgrades.

PREMIUM SERVICE

Premium Service Plan combines consulting and training in addition to our conventional technical support. PSP can be used for direct one-on-one training and/or assistance in setting up your project. You are in control.

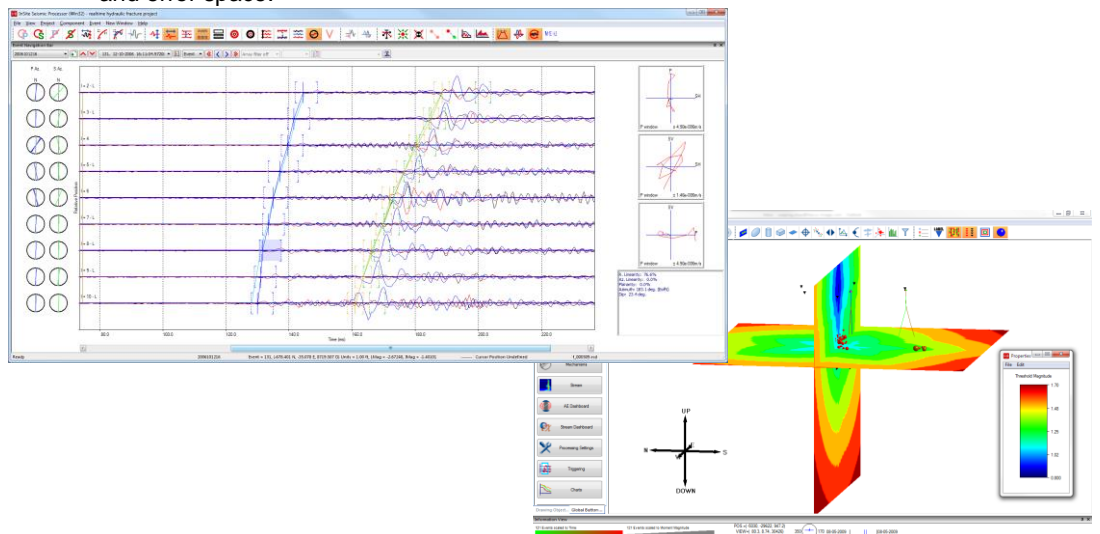
CUSTOM SOLUTIONS

Our toolbox of processing, visualisation and network functions are under continual development. Customised developments can be commissioned.

QUALITY ASSURANCE

The software has been available as a commercial product for 20 years. Documented algorithms. Benchmarked and tested against synthetic seismicity.

- Import data from a range of common formats including SEGY, SEG2, SEGD, SEISAN, SEED, MiniSEED, GCF, SAC.
- Event detection and triggering from data streams, including a “matched filter” technique to look for small similar events.
- Windows-based graphical user interface.
- Manual or automatic processing of event data with range of sophisticated automatic arrival-picking, source location and source parameter algorithms.
- Rotation of waveforms from triaxial or quadriaxial instruments into ray coordinate systems and display of particle motions on hodogram plots
- Display of colour-density sonograms and polarisograms.
- Ray-tracing algorithms with complex velocity structures to locate microseismic events within a 3D volume (including anisotropy).
- Option to locate events not relying on phase picking using migration algorithms
- Storage and management of event parameters and waveforms on a shared remote PC for easy access by multiple users managed with Microsoft's SQL server.
- Display of the event locations in a 3D scene, allowing rotating, panning, magnifying and flying through the scene plus creation of hotplanes and 3D objects.
- Velocity analysis for 'active' data for velocity and amplitude information including waveform cross-correlation algorithm for repeated surveys.
- Calculation and visualisation of source mechanisms and fault plane solutions.
- Advanced interpretation tools including customisable charting of event parameters (e.g. b-values, magnitudes), display of preferential orientation described by events through statistical analysis of spatial distribution, uncertainty volumes, and cluster analysis.
- Analysis of array performance through the calculation of misfit, magnitude sensitivity and error space.



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