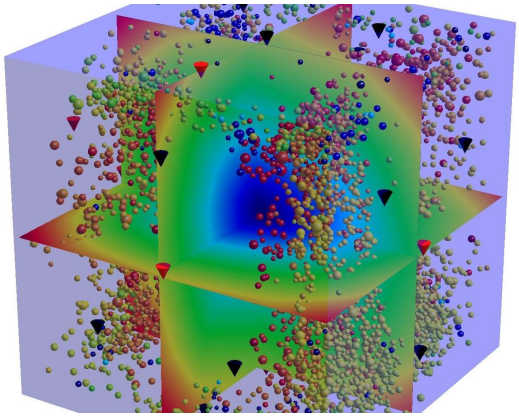
ASC
Applied Seismology Consulting

InSite-Lab™

Acoustic emission and ultrasonic survey processing software



- Laboratory-rock deformation and material testing, geotechnical, civil and other applications.
- Optimise workflows.
- Acoustic Emission event locations, velocity analysis, frequency analysis, source mechanics.

DESIGN

AE monitoring design tools to plan sensor arrays and meet specific research objectives.

ACQUISITION

Data acquisition and processing with customisable triggering settings. Compatible with most standard and proprietary file formats

PROCESSING

Manual and automated waveform processing with efficient workflows. Advanced location algorithms. Time-dependent velocity models.

INTERPRETATION

Full 3D visualisation of events and objects with intuitive movement through scene. Enhanced interpretation of acoustic event clouds. Graphical display of ultrasonic survey results.

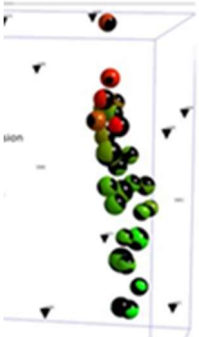
UNDERSTANDING

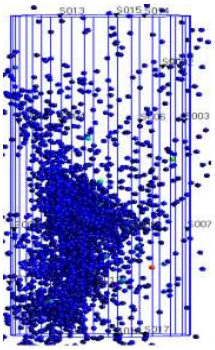
Improve understanding of mechanics with calculation and visualisation of moment tensors.

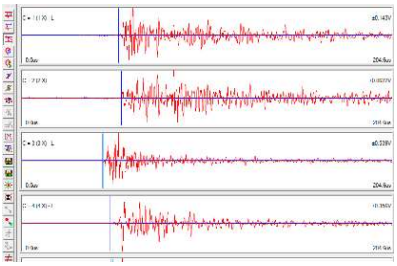
InSite-Lab™ is an integrated data processing, management and visualisation software developed for the processing and analysis of acoustic emission and active ultrasonic velocity surveys as acquired in applications such as laboratory rock deformation testing and in the field for localised rock testing experiments and rock mass monitoring.

InSite-Lab™ provides tools for importing, processing and visualising data with a high-level of automation, making processing and reprocessing a simple work flow. The package contains advanced interpretation tools to aid your analysis.

InSite-Lab™ is developed in a version controlled environment within ASC's ISO 9001:2015 Quality Management Systems. InSite™ has been available as a commercial product for over two decades and has been used by leading companies, academic and research institutes worldwide for the processing, visualisation advanced analysis of acoustic emission and ultrasonic data.







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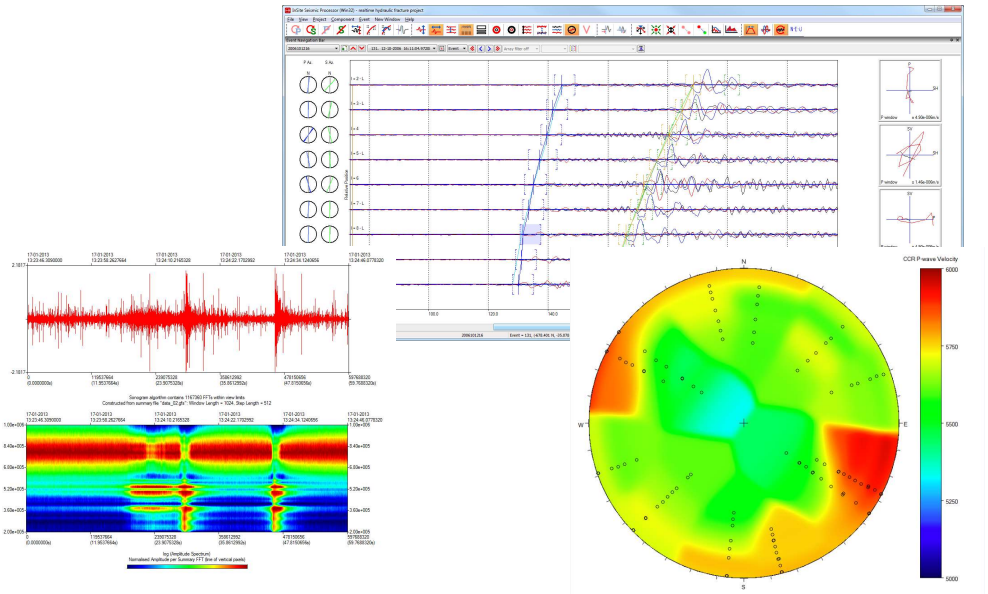
appliedseismology.co.uk

Software features and benefits

- Event detection and triggering from data streams, including a “matched filter” technique to look for small similar events.
- Windows-based integrated graphical user interface.
- Manual or automatic processing of event data with range of sophisticated automatic arrival-picking, source location and source parameter algorithms.
- Waveform filtering with user-configurable filters.
- Display of colour-density sonograms and polarisograms.
- Visualisation of complete continuous data streams plotting data as a waveform in the time domain and on a sonogram in the frequency domain.
- 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 calculation of transmission velocities from picked arrivals and 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.
- Interface for the integration of user’s routines in C++ and Python
- Analysis of array performance through the calculation of misfit, magnitude sensitivity and error space.



TECHNICAL SUPPORT

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

FREE CONSULTANCY HOURS

InSite licences are supplied with free consultancy hours that 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 over 25 years. Documented algorithms. Benchmarked and tested against synthetic seismicity.

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

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