

Imperial College London Laboratory Experiments

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software@appliedseismology.com



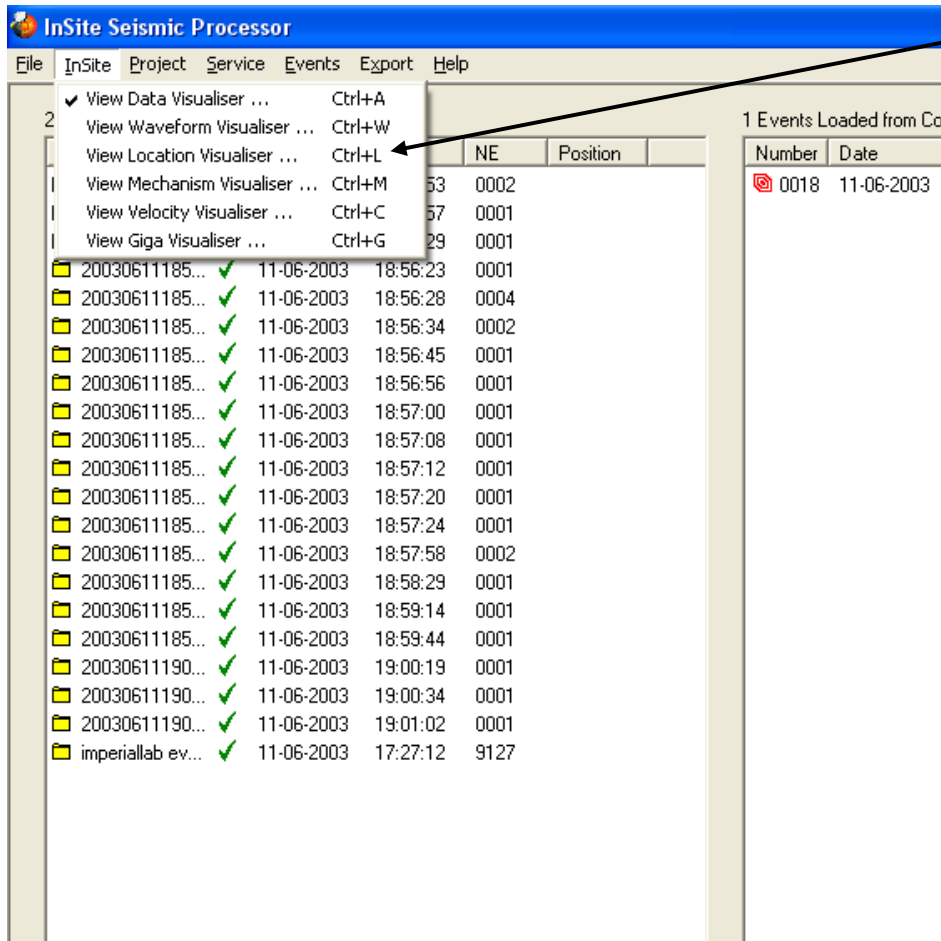
Demo Features

- This demo uses AE location data without waveforms for the complete data set. Source mechanisms have been determined for 26 events.
- The data is from a laboratory experiment at Imperial College London for the EC-funded SAFETI project.
- The AE imaged the creation of fractures that grew as uniaxial stress was increased. The events were compared with model data.
- The following slides give you some options to try in the software.

It's a good idea to ...

... run through the "ImperialLab" demo presentation first as this gives a more thorough overview of the Location Visualiser and Mechanism Visualiser.

Data Visualiser I



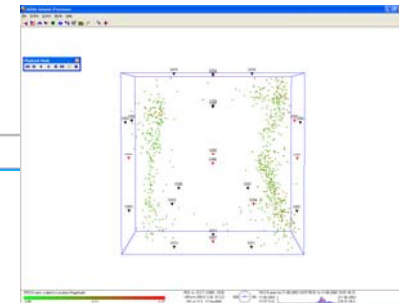
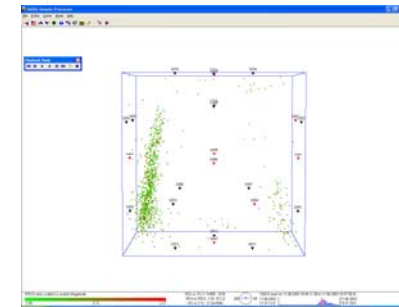
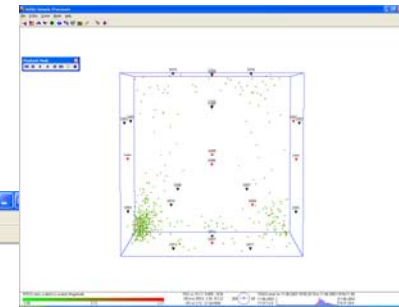
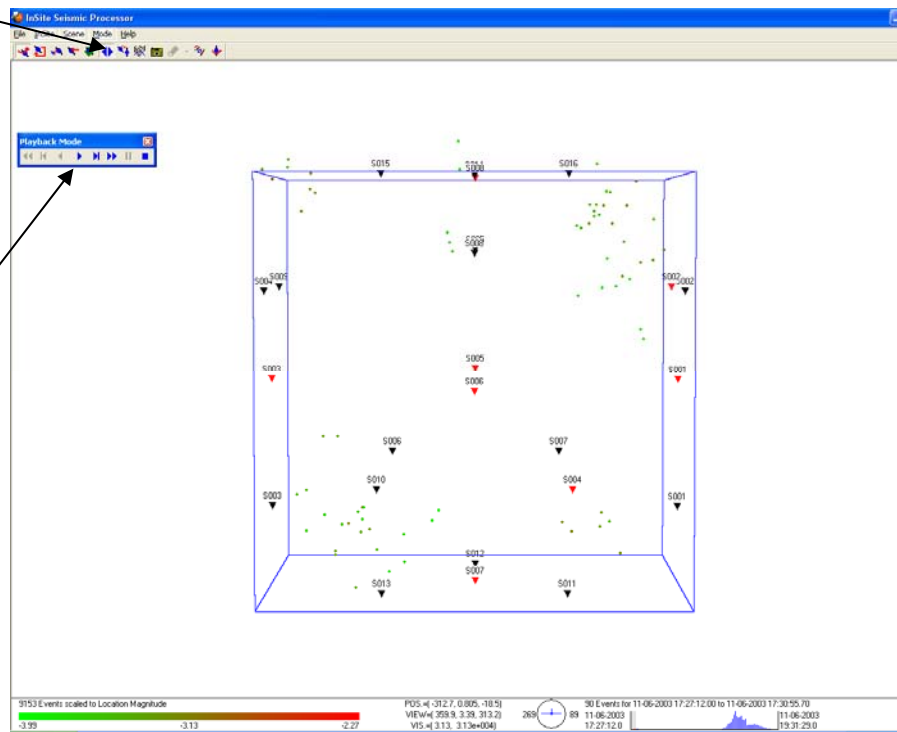
The InSite menu allows you to switch between the available visualisers.

First try going to the Location Visualiser to view the complete data set.

Location Visualiser I

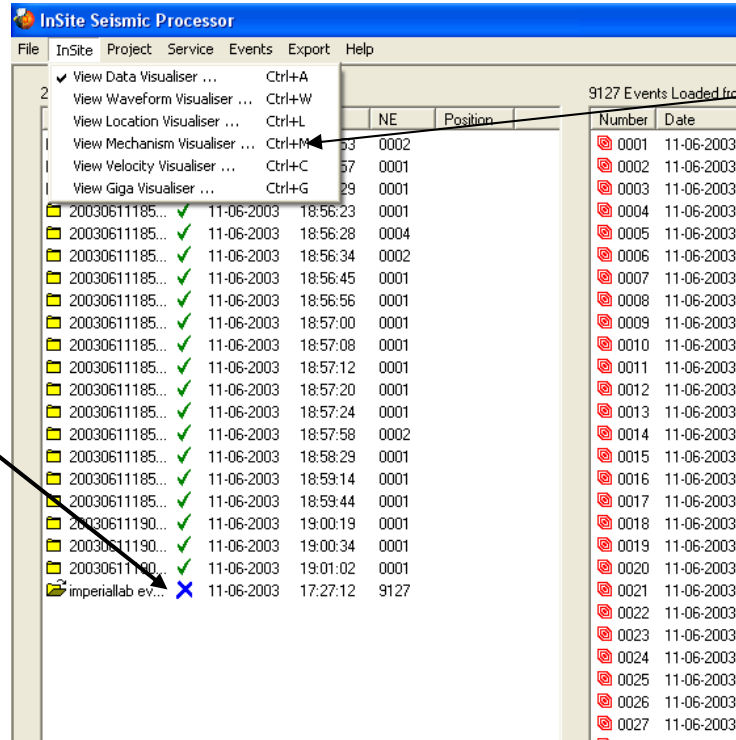
Select the 'Play Events' button to bring up the Playback Mode

Use the options to play through the events and view the propagation of the fractures in the sample.



Data Visualiser II

Disable the component with all events (at bottom of list). This is carried out by right-clicking on the entry and selecting Disable Component.

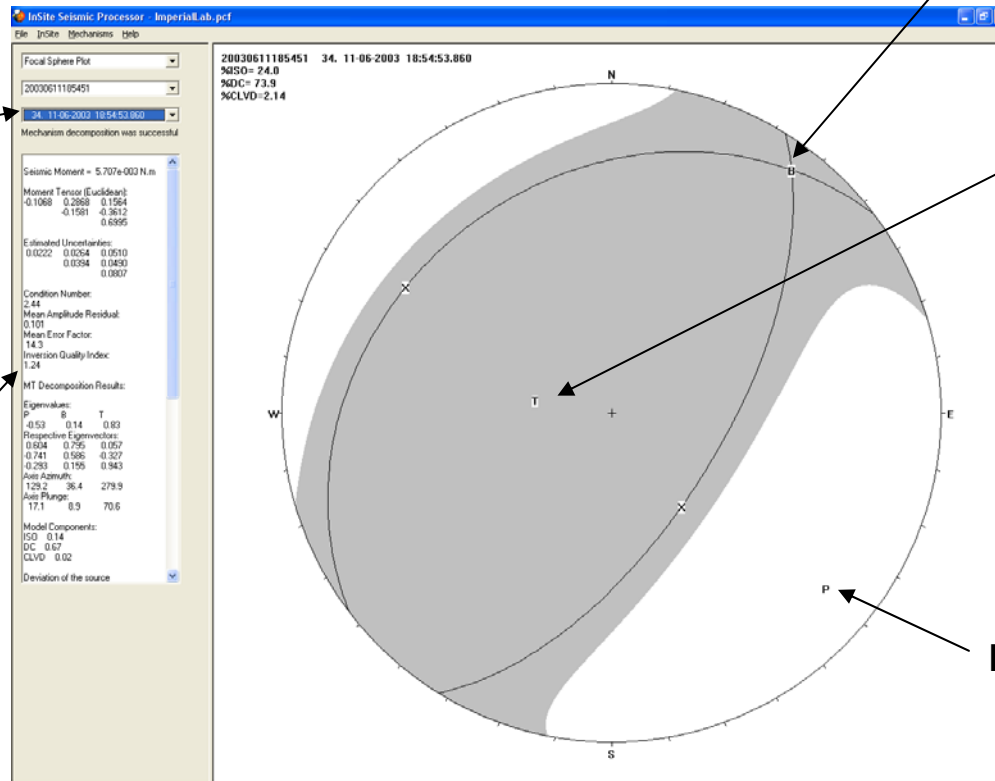


Switch to the Mechanism Visualiser in the InSite menu.

Mechanism Visualiser I

Use the component and event selectors to view mechanisms.

The mechanism Analysis Window provides the user with a comprehensive list of parameters.



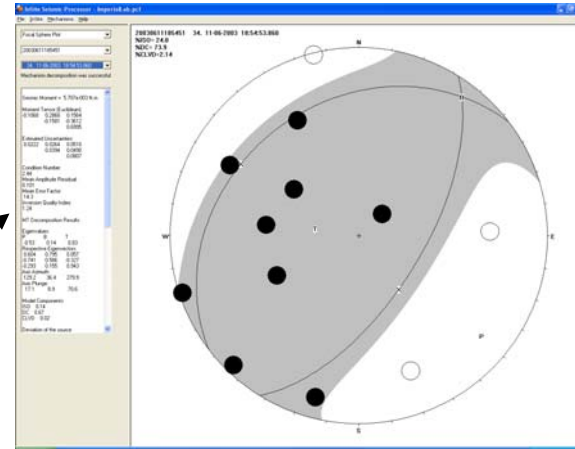
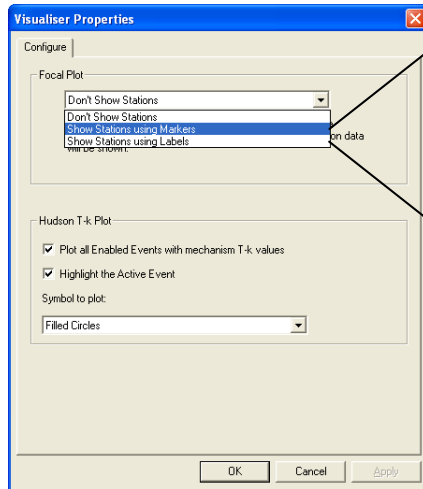
Intermediate Value

Tension Axis

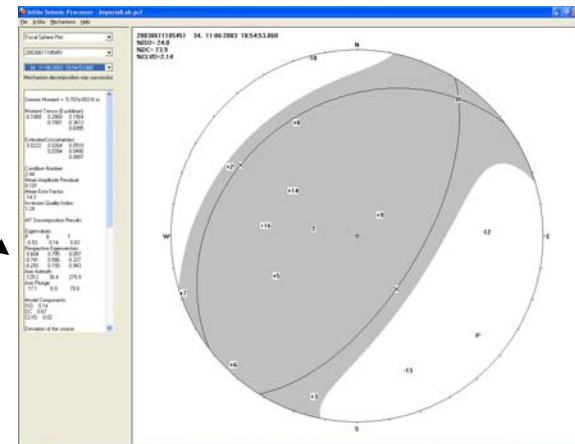
Pressure Axis

Mechanism Visualiser II

The visualiser properties sub-menu allows the user to change the focal plot options.

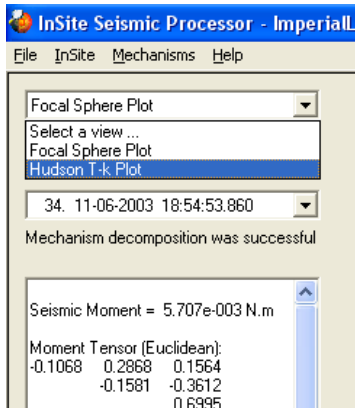


Show stations using markers



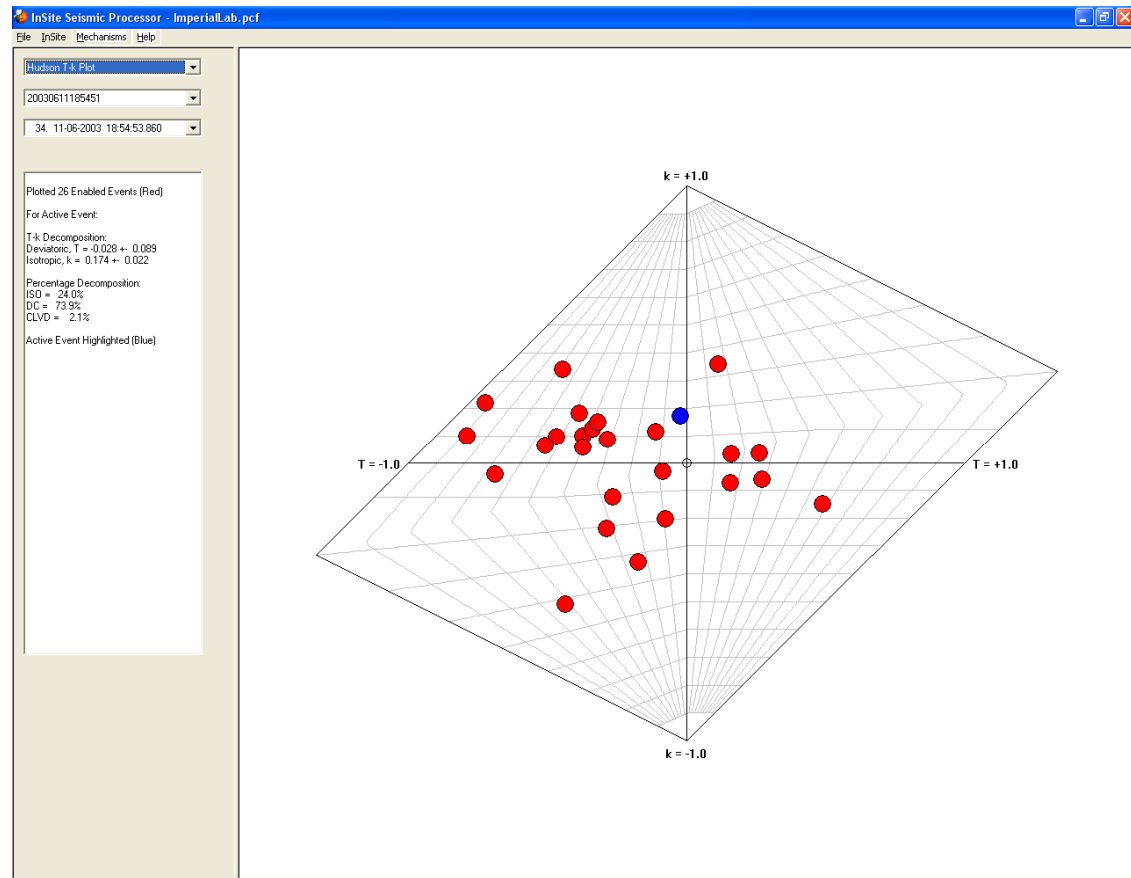
Show stations using labels

Mechanism Visualiser III

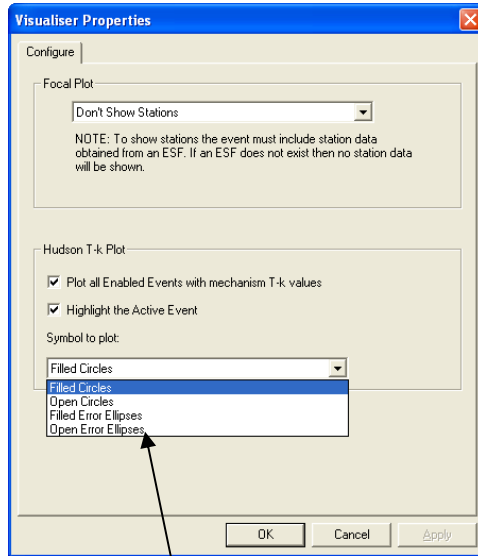


Select the Hudson T-k Plot in the View selector.

The mechanisms for all 'enabled' events are shown. The currently selected event is highlighted blue.

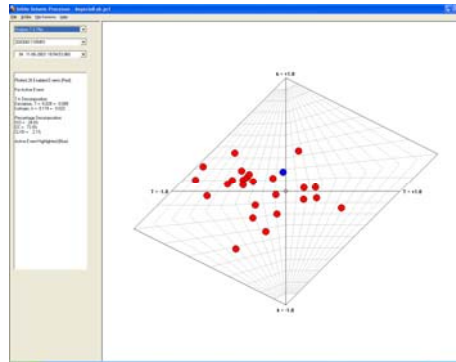


Mechanism Visualiser IV

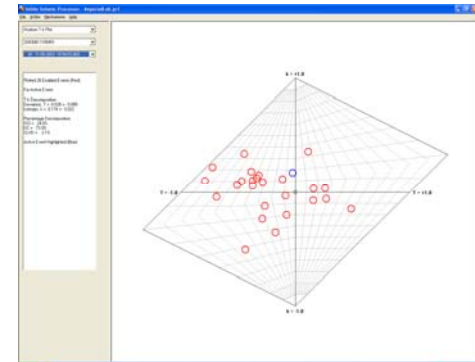


Various symbols can be plotted by changing the Hudson T-k plot option.

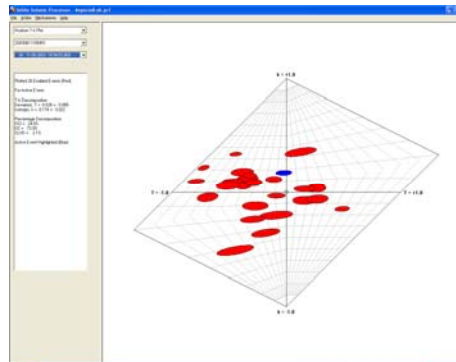
Change the view in the Visualiser Properties sub-menu.



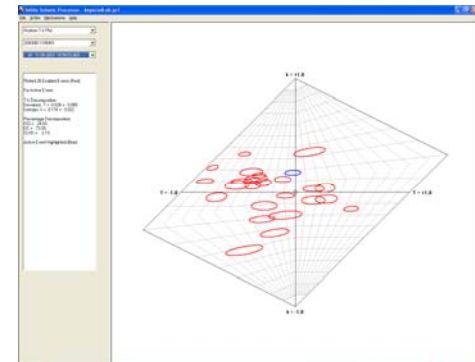
Filled Circles



Open Circles

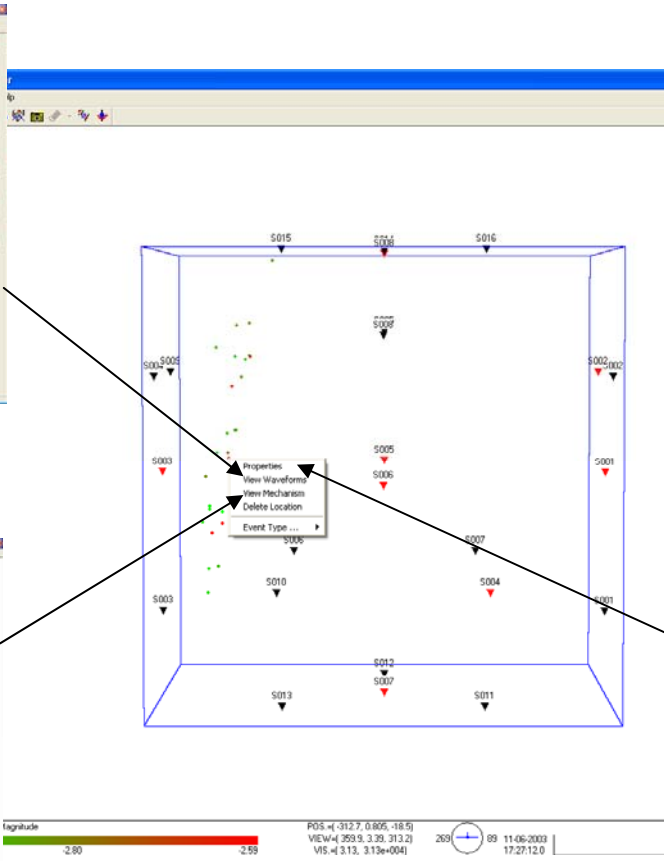
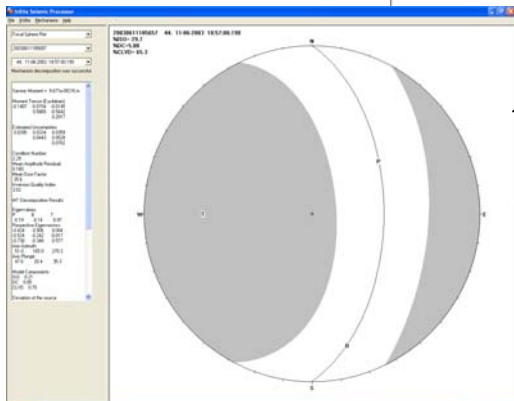
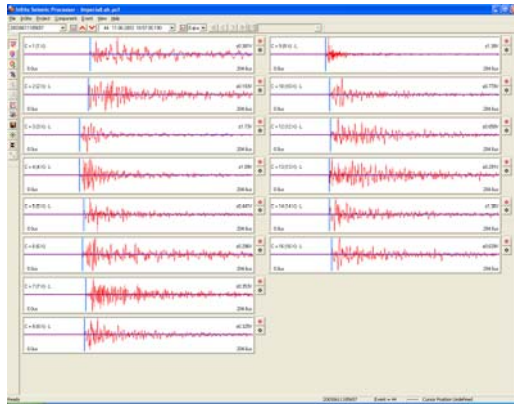


Filled Error Ellipses



Open Error Ellipses

Mechanism Visualiser V



In the location visualiser right-click on an event to bring up a variety of options.

This feature allows the user to obtain information for any event.

Event Properties

Event = 44 Component = 200306110957 Label = 044

Date and Time
Date: day-month-year = 11-06-2003 Time: hour: min: sec = 18:07:13

Location Information
Event located at (2.60, -17.3, 1.54) with Units of 0.00100 m

There are 10 Waveform Channels in the Event

Channel	Sampling	Time Units	Instrument	Ampl.	North	East	Dist
0001	✓ 0.200	1.00e-006	0001	×	0.0	25.4	10
0002	✓ 0.200	1.00e-006	0002	×	-11.3	25.4	-1
0003	✓ 0.200	1.00e-006	0003	×	0.0	-25.4	10
0004	✓ 0.200	1.00e-006	0004	×	-11.3	-25.4	-1
0005	✓ 0.200	1.00e-006	0005	×	25.4	0.0	-10
0006	✓ 0.200	1.00e-006	0006	×	25.4	-11.3	1
0007	✓ 0.200	1.00e-006	0007	×	25.4	11.3	1