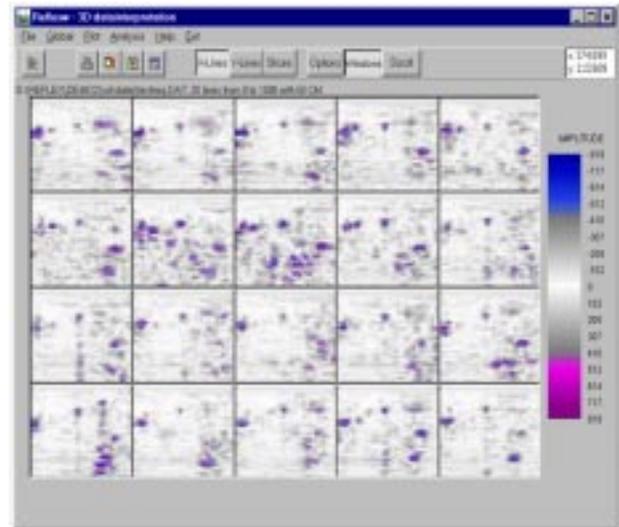


REFLEXW is the new WindowsNT/9X/2000 software generation of REFLEX for the 3-dimensional processing and interpretation of Ground Penetrating Radar (GPR), reflection and refraction seismic.

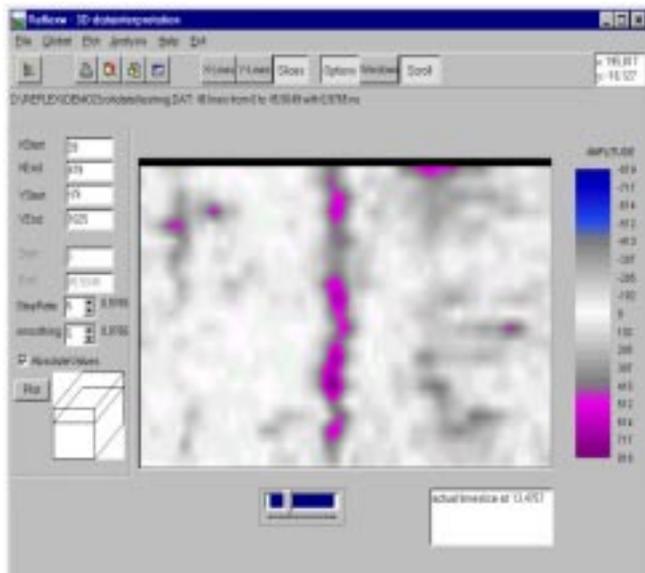
ReflexW

3-D GPR Data Interpretation Module

The 3D-data may be easily constructed from equidistant or non-equidistant 2D-lines either during the import or in a later stage. Equidistant: only two parameters must be entered - the traceincrement within each 2D-line and the distance between each line. An interpolation filter allows a resampling of the data in the direction of each line if the number of traces differ in each 2D-line. Nonequidistant: The profiles can be arbitrarily orientated. The spatial interpolation ranges can be determined freely. The data are completely loaded into the RAM of the computer whereby a fast visualization of the data is possible.



3D data-interpretation:
Display of x-Lines using the
windows option



3D data-interpretation: Display
of timeslices using the scroll
option

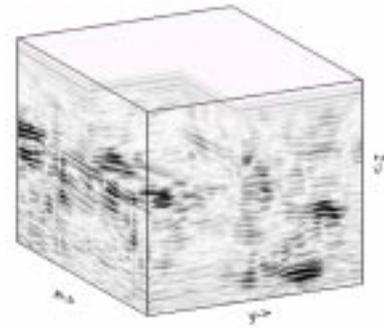
The module also allows to load several (up to 25) different 2D-files in order to display them within the different modes. The scale of the different 2D-files can vary.

Two different display options are available.

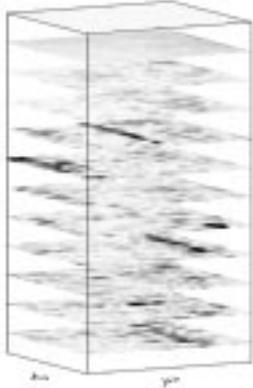
Using the option "windows" (see first figure) the slices are displayed in manually scalable windows. The step and smoothing rate may be freely chosen.

Using the option "scroll" (see second figure) you may continuously move through the 3D-cube either in x-, y- or z-direction using the track bar. Again the step and smoothing rate is freely choosable.

The 3D-data can also be displayed within a 3D-CUBE . The program supports an interactive rotation of the 3D-CUBE. The data can be viewed from any direction and can be zoomed. You may select if only the front or back planes of the datacube are displayed or the full 3D-data volume. In addition you only may select single cuts and scroll through the cube in one distinct direction. With the options front or back activated only the front or back planes of the datacube are displayed. In addition you may select a distinct cornerpoint which serves as the starting point for a cutting out of the cube.



3D data interpretation : 3D cube display - 'Cutting out' display function

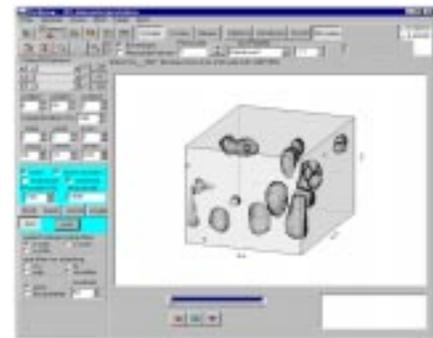


3D data interpretation : 3D cube display - 'Selected' display function

With the option single activated you may select any combination of x-, y- and z-cuts. With the option scroll activated it is possible to continuously move through the 3D-CUBE either in x-, y- or z-direction using the track bar. The step rate is freely choosable. It is possible to plot a "background" consisting of any combination of x-, y- and z- cuts in addition.

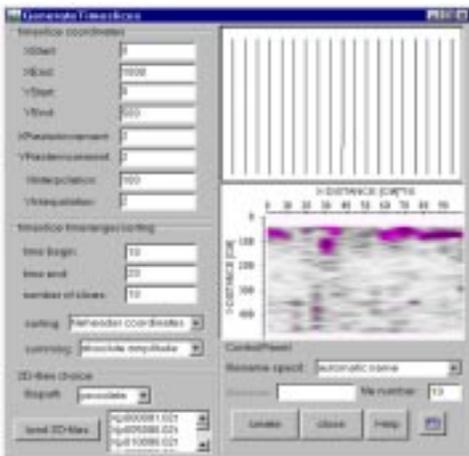
With the option full activated all data of the 3D-cube are displayed. Shading and hiding are supported. Not visible parts of profiles are covered. However there is the possibility to "look through" certain parts of the 3D-data volume, whose amplitude values are smaller than the given threshold value. With the option shading activated a special shading algorithm is used in addition.

3D data interpretation : 3D cube display - 'Look through' display function



In addition you may construct single timeslices (C-scans) from different 2D-lines originating all from one acquisition plane.

Calculation of timeslices: construction of time-constant slices from a sequence of profiles which are measured in the same plane. The profiles can be arbitrarily orientated. Alternatively, data with different geometries sorted after midpoint-coordinates may be also used for the calculation of the timeslices. The spatial interpolation ranges can be freely determined. The timeslice is considered as a simple section - all processing and display possibilities can be applied on.



3D data interpretation: Construction of single time slices