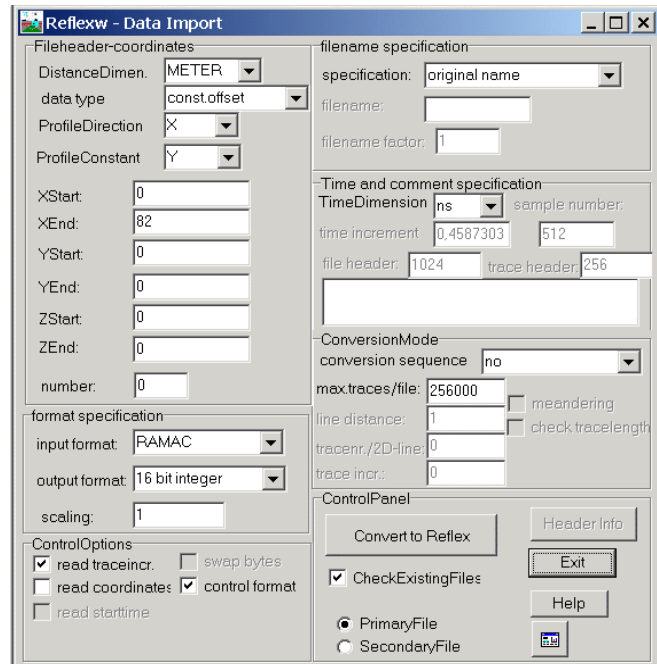# Import and first display of GPR-data

In the following the import and the first display of GPR-data within REFLEXW is described. The functions are described using a MALA/RAMAC GPR-example file. You only have to change some options for other data types.
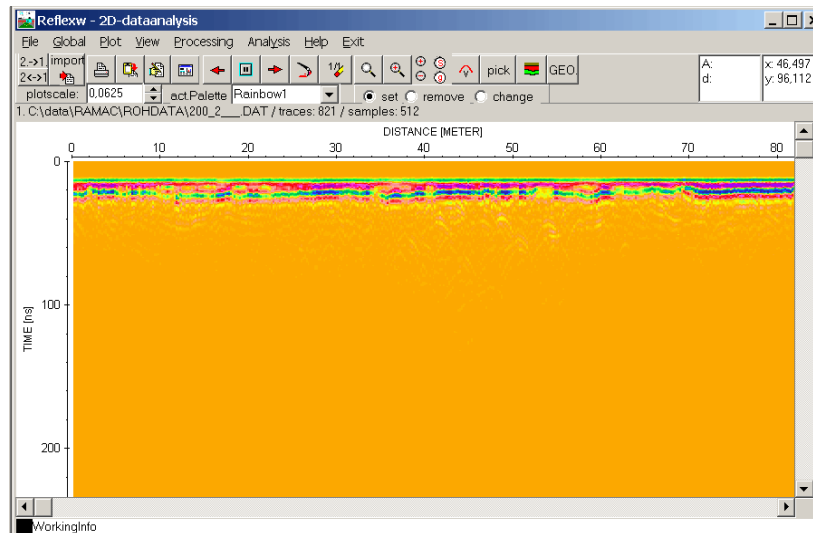
I. Import GPR-data

1. enter the module **2D-dataanalysis**

2. enter the **import** menu using the option File/Open/import. The REFLEXW-DataImport menu appears (see figure at the right).

3. Make the following inputs:
input format: RAMAC
output format: 16 bit integer
filename specification: original name for example; to be considered: REFLEXW (until version 2.5.x) only uses max. 8 characters for the filename for DOS-compatibility
Choose X or Y as ProfileDirection and Y or X as ProfileConstant.
Choose if the traceincrement and/or the coordinates shall be read from the original data.

4. Activate the option **Convert to Reflex**. A fileopen menu appears with the directory ASCII under your project directory as the standard import path. You may choose an original RAMAC file (RD3 or RAD-file) from this import path or from any other directory. In any case both RAMAC files (RD3 and RAD) must be present. After having choosen the wanted RAMAC file the data are converted into the REFLEXW internal format and stored under the path ROHDATA under your project directory. With the option PrimaryFile activated the imported data are automatically displayed into the primary window (see figure below).

5. Exit the import menu   using the option exit.

II. Displaying the data

1. After having done the import the data are displayed using the standard plot options. You may change these plot options using the option Plot/Options. Activating this option the Plot Options menu appears (see figure on the right).

2. The main plot options for GPR-data are:

- Plotmode
- PointmodeScale
- EnergyDecay
- AmplitudeScale

Plotmode: by default use Pointmode for GPR-data.
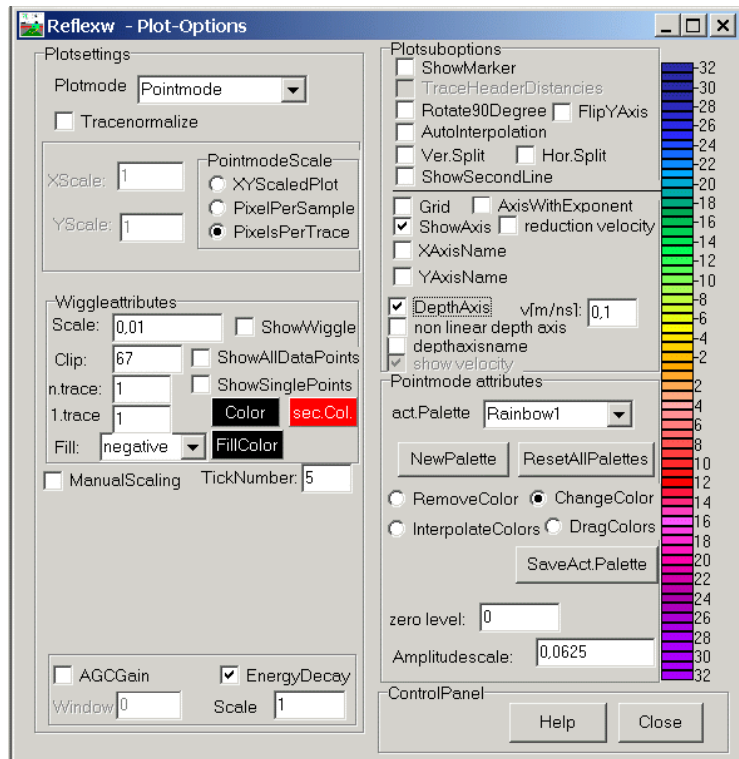
PointmodeScale:

XYScaledPlot: the data are completely plotted into the actual window provided that the two scale options XScale and YScale are set to 1. The option may be used for small data (few traces) or if you want to display the complete dataset into the main menu (the Zoom-options are available - see also option Xscale and Yscale)). With no zooming and large datasets the display resolution is quite poor.

PixelPerSample: the plotting size of each data point is given in screen pixels. Zooming or rescaling is only possible in y-direction (option Yscale). The option might be useful for large data.

PixelsPerTrace: the distance between successive traces is given in screen pixels. The complete time series of each trace is plotted corresponding to the size of the actual window. No zooming possibilities are available. For example this option may be used for large data (many traces).

EnergyDecay: the RAMAC GPR-date are raw data without any gain in time-direction. Therfore activate this option if no gain-filter (see also filtering guide) has been applied on the GPR-data in order to compensate the energy decay with time.

AmplitudeScale: this parameter controls the contrast of the data display.

On the right hand side you see the data from page 1 using the plot parameters shown in the plotoptions figure above.

To be considered: Normally the data must be filtered (see the filtering guide). The main filters are:
static correction to compensate for the time delay of the first arrival.
y(time)-gain
dewow