

Reflexw ver. 3 main changes

module	problem description	changes	date
2D-analysis /dataimport	ABEM (old ABEM format for Mark 3 and 4, extension abm): the timebasis was always assumed to be 200 ms.	now the different ABEM timebasis are taken over into the Reflex file.	march 04
	IDS: data from the new IDS program version 3 could not be read in+B37	solved	march 03
	IDS: traces with a GPS-code have been lost	solved	dec. 03
	RAMAC: mkn (marker) file format has been changed	Reflex now supports both 2 and 3 columns mkn data	sep. 03
	geometry file: restriction to 8 characters for filenames	now 16 characters are allowed	feb. 04
2D-analysis /dataexport	SEGY: channelnumber not exported to SEGY-data	solved	march 03
2D-analysis	interpolate under processing/edit traces did not work	solved	feb. 03
	duplicate under processing/edit traces did not work for 32 bit data	solved	feb. 03
	x-flipprofile: profile constant coordinates have not been exchanged	solved	april 03
	FD-migration: traceheader informations have been lost	solved	oct. 03
	printing: plotoption flipxaxis only allowed for small profiles	solved with restriction: one single page	march 03
	printing: comments only on one page if pageblocking is activated	comments now on all pages	march 03
	distance dimension inch not used for fk-filtering and for cmp-velocity analysis	solved	july 03
	reduction velocity not correct with activated dewow or AGC-gain plotoptions	solved	feb. 03
	elevation axis: with manual scaling activated dz was not correct	solved	sep. 03
	show core data: if starttime <> 0 coredata have not been printed correctly	solved	nov. 03
	layershow: possible range overflow with layershowrecords stored with the old format (max. 10 layers)	solved	may 03
	layershow: printing with activated use actual zoom lead to an incorrect depth axis	solved	dec. 03
	RAMAC GPS-cor file actualization: coordinates with no given direction (e.g. N or S) lost one decimal place	solved	oct. 03
3D_interpretation	axis labellig sometimes wrong	solved	july 03
	combined use of 2D-analysis and 3D-interpretation could lead to problems during creating a 3D-file	solved - 2D-analysis deactivated during creating a 3D-file	july 03
	create timeslices: sorting problems when using manual/automatic1 filenames	solved	oct 03
	plotoptions dewow and energy decay could lead to problems	dewow deactivated with activated autointerpolation and no energy decay for timeslices	nov 03
modelling	raytracing for already existing rasterfiles (option raster deactivated) lead to problems (sometimes original model has been used instead)	solved	march 03
	topography for electromagnetic modelling not correct for single line	solved	sept. 0

CMP	cmp-stack: for not equidistant data the stack section was created based on a mean traceincrement without interpolation	automatic making of equidistant traces based on the not equidistant traceheader coordinates	may 03
	velocity analysis: 2D-model display wrong with activated tracenormalize plotoption	automatic deactivation of the tracenormalize option	may 03
travelttime analysis	if many shots are present the individual travelttime curves interfere each other and are hardly to discriminate	new option colored in order to discriminate the different shots	march 03

Main news of the REFLEXW version 3.0

I. 2D-dataanalysis:

0. general

- option **open 1.-4. line** under file: allows to load up to 4 different profiles into the 2D-dataanalysis window. The data windows may be split vertically (vertical split activated) or horizontally (horizontal split activated) or both (options vertical split and horizontal split deactivated).
- option **show profile line** under view: allows the display of the profile curvature (based on the traceheader coordinates) and the display of the actual mouse position within the profile curvature
- **interactive choice** under file/open: new options use traceheader coordinate (display of the profile curvature based on the traceheader coordinates), show picks (projection of the picks onto the profile curvature), interpolation (interpolation of the projected picks), Btm (load any background bitmap, e.g. a photo) and show profile (if activated the actually chosen profile is shown in a separate window for a fast view - automatic rotation for y-orientated profiles).
- **comment marker** textbox may be defined as a transparent text (done within global settings menu)
- **import** - import of bitmap files enabled

1. processing:

- new option **merge in timedirection** under edit traces - allows to merge different profile into 1 profile
- **correct picked phase** under static correction: new suboption flatten/lowpass/highpass. Using the suboption lowpass the option may serve as a swell filter for offshore data.
- **muting**: additional options load pick data and taper window
- new option **create 3D-ensembles** under trace interpolation - allows to create 3D-ensembles by defining the ensemble number either manually or automatically
- **static correction**: new suboption use automatic filename
- **batch processing** integrated within the sequence processing, this means several sequence processings within one step. The option **generate batchfile** creates an ASCII file with the extension SEQ under the actual project directory containing. The option **start batchfile** starts the batchprocessing.

2. picking:

- **projection** of the picks within the interactive display of the profiles
- number of places freely choosable for the **ASCII-pick output** (choosable within the global settings menu)
- **pick difference** implemented within the print output
- option **use code** under global settings - if activated only the picks with the actual code are corrected or changed
- option **control xy-coord.**: allows to correct existing picks for the xy-coordinates stored within the traceheader of the actual datafile. Those picks which xy-coordinates do not correspond to any existing xy-coordinate of the

actual datafile are automatically cancelled. The option might be useful if existing picks are loaded into a crossing line.

- option **remove non double picks**: allows to remove all picks for which only 1 pick for one distance position exists. The option is useful for a continuous picking of a layer thickness.
- option velocity adaptation may be activated in addition to the pick option: thereby e.g. a calculated hyperbola may be used as the cursor when picking diffractions.
- autopick: new parameter **xinterval** -enter the x-range behind a detected pick where no pick detection will be done

3. plotoptions:

- new option **dewow**: applies the dewow-filter during the display of the data - use this option for a fast display of the data without the need of processing the data, e.g. during the data acquisition
- new option **elevation**: if activated the depth axis is assumed to be an elevation axis based on the given velocity and the reference level
- new option **flip-x-axis**: allows to display the profile in opposite (negative) distance direction

4. traceheader coordinates (GPS coordinates):

- save the traceheader coordinates on an ASCII-file under the tabella form and under CMP-processing
- new ASCII GPS-format named CSV-GPR for actualizing the traceheader coordinates from an ASCII-file
- new outputformat under import (see 5.): new 16 bit integer and new 32 bit floating point - the traceheader coordinates are stored as double precision - thereby a higher resolution for storing GPS-coordinates is given

5. import:

- new format HP-network: allows to import data given within the frequency range. Data are automatically transformed into the timerange
- new outputformat: new 16 bit integer and new 32 bit floating point - the traceheader coordinates are stored as double precision - thereby a higher resolution e.g. for storing GPS-coordinates is given
- max. number of characters for the filename (without path and extension) extended to 16

6. dataexport:

- bitmap export: scale relation in x and z-direction

7. layershow:

- the line thicknesses for the thick boundaries can be entered (within the global settings menu)
- new option **multioffset** within create velocity file: allows to generate a lateral varying velocity file based on multioffset data
- new option **core data/1D-models** within create velocity file: allows to generate a lateral varying file based on a core data file
- automatic interpolation of the velocity file for amplitude, multioffset or coredata

8. CMP-processing:

- new option **NMO correct** - performs a NMO correction without stacking
- new parameter **Min./Max.Offset** for defining the offset range for stacking and NMO correction

9. printing:

- **print preview** - possibility to define a header for each print page separately if the print size is larger than one single page or when printing using the option page blocking;
background bitmap (e.g. a logo) may be incorporated into the comment box

- **velocity adaptations** like diffractions are printed out in addition if activated

II. FD-modelling/tomography:

1. option free surface for elastic and acoustic modelling
2. topography is now considered within the tomography
3. printout of the model with underlied rasterfile (e.g. when fill option is activated)

III. 3D-datainterpretation:

1. **axis labelling** included

2. **picking:** the arrivals of a 3D-datafile can be picked analogous to the pick option within the 2D-dataanalysis. Picking may be done within the individual 2D-cuts (scroll or window mode) or within the 3D-datacube display. You have the choice between manual picking and continuous pick.

Corrections can be performed either on zero crossings, on the extremum or some other types (options correct all or corr. act cut).

The option take over allows you to take over the picks of the previous cut for the actual one. This allows you a fast picking of the individual cuts.

With the option use code activated you may pick all elements within one step (the pick code is used for discriminating the individual elements (reflectors)).

3. **vertical split** for second 3D-datafile

IV. traveltimes analysis:

1. new option **calculate reverse traveltimes** for the reverse traveltimes control.