

## **Reflexw 4.2 news history (from 01.01.2006 to .....):**

25.07.2007: **2D-datainterpretation - update traceheader** with type **RAMAC-GPS**: When using the UTM-conversion afterwards Reflexw assumes the western longitude and the southern latitude coordinates to be negative (eastern and northern coordinates are assumed to be positive). In order to ensure the correct assignment the coordinates are now set to negative values for latitude equal 'S' and longitude equal 'W' independently from the settings within the COR-file. They are set to positive values for all other settings.

20.07.2007: **2D-datainterpretation - autointerpolation**: the autointerpolation at the borders (top and right) has been improved.

20.07.2007: **3D-datainterpretation - show several 2D-lines** with plotoption **traceheader distancies** activated: the traces were shifted along the distance axis by one trace - corrected now, also in ver.3.5.

11.07.2007: **2D-dataanalysis - autopick**: the amplitudes of the picks had not been taken into account - corrected now.

02.07.2007: **2D-dataanalysis - layershow/create report**:

- new option calculate thicknesses from average depths within create layerreport which controls how the thicknesses are calculated for summary comment data. If activated the thicknesses are calculated from the averaged depths.

- warning message if the layer order is wrong when using layer thicknesses. In this case the layer depths must increase with ascending layer number.

06.06.2007: **2D-dataanalysis - profile histograms**: the speed for the calculation of the histograms has been drastically increased

05.06.2007: **3D-datainterpretation - create mpeg file**: the mpeg file has not been stored when closing the 3D-datainterpretation without stopping the mpeg-video - corrected now.

31.05.2007: **3D-datainterpretation - clipboard 3D-cube**: the entered clipboard factor did not automatically increase the resolution of the 3D-cube display - corrected now.

28.05.2007: **3D-datainterpretation - enter Scan3D**: if the original data have been stored on individual 2D-files and the number of traces per scan is not exactly the same for all 2D-lines although a wheel has been used a reinterpolation of the individual 2D- lines will be automatically performed in order to compensate for the errors. This reinterpolation could lead to a shift resulting in a skewed line. This problem has been solved now.

New processing option **flip every 2.scan** which every 2. scan in scan direction. This allows you to process and interpret data which have been acquired in a meandering manner (forth and back).

24.05.2007: **2D-dataanalysis/edit several FileHeaders**: the distanceaxis name and the timeaxis name have not been updated when changing the distance or time dimension respectively - corrected now also for ver. 3.5.

14.05.2007: **2D-dataanalysis** - processing options **replace, insert profile, merge files, combine files f.CMP**: an error occurred if files with different format codes (e.g. 16bit integer and new 16 bit integer) had been loaded as secondary files - now this is allowed. In addition the sorting has been extended to files with different filename lengths (e.g. file1.dat, file2.dat, ...,file10.dat, file11.dat) - such a sorting was wrong until now.

27.04.2007: **CMP-velocity analysis - print semblance**: the scaling of the x-axis for the semblance was the same like for the normal profile - corrected now.

19.04.2007: **modelling**: if using the option doRaster within the ray or tomography panel the resulting fdp-rasterfile contained the rasterincrement defined within the FD-panel independently from the actual settings. This led to a wrong display of the fdp-file when using e.g. the option view/additional rasterfile - corrected now.

16.04.2007: **modelling**: max. number of rasterpoints in x- and z-direction increased to 8192 - warning message if this number will be exceeded.

12.04.2007: **2D-dataanalysis - edit comment markers** - the new check introduced on 12.09.2006 sometimes removed the last comment marker - corrected now.

10.04.2007: **modelling - 2D tomography**: new check for the chosen sec. coordinate if the 3D tomography format has been used. The program gives a warning message if only 0 values are present within the tomographic data for the chosen second coordinate and changes the sec.coordinate if wanted.

04.04.2007: **2D-dataanalysis - print header** with page blocking or on several pages: new option copy to all pages which allows to copy the actual print header to each page.

29.03.2007: **2D-dataanalysis - direct import of 2 channel Radan data**: if direct importing 2 channel Radan data only the 2. channel has been displayed - corrected now.

20.03.2007: **2D-dataanalysis - SEGY-import**: data with the format code 5 (4-byte IEEE floating-point) could not read in - corrected now.

05.03.2007: **2D-dataanalysis - SEG2-import**: the StringTerminatorLength has been assumed to be 1 which could lead to problems with the trace headers if this does not hold true. Now the StringTerminatorLength is read from the SEG2-fileheader - also in ver.3.5.

28.02.2007: **modelling**: new check which avoids to remove the uppermost first layer (option edit layer and suboption remove activated).

28.02.2007: **modelling/FD for acoustic wavetype**: start FD with deactivatead raster - wrong error message appears that the file size does not fit - corrected now.

28.02.2007: **plotoptions**: warning message if dewow activated and timerange for the dewow has been set to 0

28.02.2007: **2D-dataanalysis-markerinterpol**: if non numeric values has been entered for the markerincrements the resulting error message was always repeated if the enter key has been used - corrected now.

05.02.2007: **2D-dataanalysis-edit trace header**: update from **IDS-gps** coordinates. Reflexw did not always interpret 0 string values correctly within the GPS-file. Now a better control is given.

26.01.2007: **3D-datainterpretation - generate single timeslices**: new option **min/max. xy coord.** allows to extract the Xstart, Xend, Ystart and Yend coordinates from the file- or traceheaders of the loaded 2D-files depending on the setting of the sorting option.

21.01.2007: **2D-dataanalysis - pick**: option autom.load now also available if using the fileopening options next or prev.

15.01.2007: **2D-dataanalysis-CMP-coordinates**: a new check has been included within the CMP-processing if the CMP-coordinates are all 0. In this case they are automatically calculated from the shot and receiver coordinates. In addition the CMP-coordinates are calculated when using the option update from fileheader within the traceheader tabella menu.

12.12.2006: **2D-dataanalysis-layershow/create velocities**: when changing from any other velocity type to manual the actual value within the manual velocity edit panel has not been taken over automatically - corrected now.

22.11.2006: **2D-dataanalysis - phase follower**: the delay if the phase follower is too fast has been improved. Now the delay must be changed within the add.options pick box. Increase the delay value within this box in order to slow down the phase follower.

20.11.2006: **2D-dataanalysis - layershow - create report**: now the program automatically sets the number of layers for the report output - a warning message appears if the numbers will be changed if thicknesses are activated. Now the thicknesses are always used for the standard deviation within the statistic summary - also in ver.3.5.

17.11.2006: **2D-dataanalysis - edit comment markers** - the new check introduced on 12.09.2006 could lead to a program stop if no markers are present within the original file - corrected now.

06.11.2006: **modelling - raytracing**: raytracing was restricted to traveltimes smaller than 10000 ms (ns) - extended now to 1000000 ms. The max. depth range has also been extended.

24.10.2006: **traveltimeanalysis - apply topography**: 0 value has not been taken into account - corrected now.

12.10.2006: **2D-dataanalysis - pick ASCII-columns**: new option profileconst.->1.column which allows to write out the profileconstant within the 1. column and the profiledirection within the 2. column. The option might be useful for the export of picks of crossing profiles.

10.10.2006: **2D-dataanalysis** - processing option **div. compensation**, suboption sqrt(t) activated - could lead to wrong results - corrected now also in ver.3.5.

25.09.2006: **2D-dataanalysis** - processing option **duplicate**: it was not possible to duplicate subsequent traces (e.g. tracenumber 5 and tracenumber 6) - corrected now.

22.09.2006: **CMP-velocity analysis**: after calculating the semblance or the unnormalized correlation the data window are plotted using a too big distance scale - the reset button (1/1) must be used in order to get the right scale - corrected now.

13.09.2006: **2D-dataanalysis - export** - SEG2-format - warning message if the max.number of traces exceeds 16383.

12.09.2006: **2D-dataanalysis - edit comment markers** - new check included when loading the comment markers if any blank lines are present with the marker table.

08.09.2006: **2D-dataanalysis - export** - new export format SEG-Y-DOS which uses the DOS-format and not the Unix-format for the SEG-Y-data.

02.09.2006: **modelling** - an access violation could occur when activating the option **fill** if the input of model parameters window has been closed before - corrected now.

02.09.2006: **2D-dataanalysis - edit comment markers** - if the markers will be reset an automatic display update will be done now.

02.09.2006: **2D-dataanalysis - traceheader update based on GPS-coordinates** - new option **latitude** (x-coord./y-coord.) specifies where the original latitude (or 1. coordinate in general) shall be stored - either on the x- or the y-position within the Reflexw traceheader. The option is available for all GPS-types. Setting the option to y-coord. might be useful if you are using for example the option view/profile line in order to have the same map orientation as in normal geographic maps. The actual setting is saved when leaving the program. if the markers will be reset an automatic display update will be done now.

11.08.2006: **2D-dataanalysis - sequence processing**: if the wanted processing flow has been stored from a file (option file / processing flow - suboption save) which has already been processed within the sequence processing some processing options have not been used correctly - corrected now also for ver.3.5.

02.08.2006: **2D-dataanalysis - layershow - activated option interpolate** and disturbed upper layer(s): the activated option interpolate assumes that a disturbed layer is continuous but not visible in special parts. Until now the interpolation (or extrapolation) has always been used even if a lower layer is cutting the interpolated upper layer whereby the depth of the lower layer has been corrected using the resulting negative time difference and the given layer velocity. In order to optimize this procedure the shape of the layer boundary of the interpolated upper layer now will be automatically adapted to the lower one within these parts where the lower layer is cutting the interpolated upper one.

28.07.2006: **2D-dataanalysis - layershow**: if a layer has not been defined at all (e.g. layershow consists of layer 1,2,3 and 5 (layer 4 is completely missing) a problem could occur when using the velocity file with layer velocities or with the new option layer pick vel. (change from 05.05.2006) for the layershow building. In this case the layervelocity of the last found layer has been used for the conversion of the actual layer and not the layervelocity of the actual layer - corrected now also in ver. 3.5.

25.07.2006: **traveltime analysis: printing** the traveltimes with activated option **flipYAxis** - some datapoints had not been printed - corrected now also in ver. 3.5.

17.07.2006: **FD-modelling for electromagnetic wavepropagation** (not EY-polarization) a problem could occur for special grid parameters resulting in a cancelling of the FD-program - problem resolved.

28.06.2006: **3D-datainterpretation** - option **GeoTiff**: the automatic filenaming was incorrect for slices with activated plotoption DepthAxis - lead to an error - corrected now.

24.05.2006: **2D-dataanalysis** - processing option **sub.average**: the max. number of traces has been increased to 1024 (also for running average). In addition the smoothing filter effect at the beginning has been removed.

18.05.2006: **2D-dataanalysis** - CMP-processing **slant stack**: the restriction to **min./max. offset** was not taken into account for the slant stack - corrected.

18.05.2006: **2D-dataanalysis** - processing options **markerinterpol** and **traceincr-resampling**: improvements concerning the original comment and distance markers.

18.05.2006: **2D-dataanalysis** - **autopick**: the autopick of single object has been significantly improved.

18.05.2006: **2D-dataanalysis** - **layershow** - **create report**: new option **layer codes** - if activated the layer codes are reported in addition.

18.05.2006: **2D-dataanalysis** - **processing menu 1D-filter** - the zoom values for the 2 spectra and the 2 wiggletraces now remain after having applied any filter (in the previous versions the zoom values have been reset)

15.05.2006: **2D-dataanalysis** - processing option **interpolate**: new suboption **get 0 traces** which allows the interpolation of all traces that only contain 0 values. No interpolation for the 1. trace is done (lead to problems in older version if the 1.trace was chosen for an interpolation).

05.05.2006: **2D-dataanalysis** - **layershow**: new option **layer pick vel.** within the create layershow menu - allows to use the velocities stored with the picks as layer velocities for creating the layershow.

03.05.2006: **3D-datainterpretation**: new option export GeoTiff within the scroll mode. The option allows to export the current cut to a tiff file together with a tfw world file. The two files can be directly used within a GIS-system.

03.05.2006: **modelling**: new option Exchange x-y-coordinates from datatraveltimes which uses the y-shot and y-receiver coordinates for the display of the loaded datatraveltimes.

10.04.2006: **ASCII-pick data**: now timedimension set to ms by default within traveltime analysis module and within CMP-velocity analysis module if only traveltimes have been loaded.

10.04.2006: **CMP-velocity analysis**: the manual axis scaling values dv and deltadepth only worked with activated option man. within the plotoption menu - now separated.

05.04.2006: **modelling** - if some layerpoints are located outside the modelborders these points will be omitted. In earlier versions it could occur that in this case the complete layer boundary vanished - corrected now (also in ver. 3.5)

27.03.2006: **2D-dataanalysis** - **autopick first arrivals**: under certain circumstances the autopicker for first arrivals did not work - corrected.

27.03.2006: **3D-datainterpretation** - options **interpolate** and **flipxysorting** - new option check zero traces and traceheader controls if zero traces are present within the 3D-cube and sets those traces again to zero. Activating this option also preserves the traceheader coordinates of the original file. No interpolation for the coordinates is done. The interpolated traces will have the same traceheader coordinates.

17.03.2006: **2D-dataanalysis** - processing option **notchfilter/frequ.:** the **lower plateau** filter parameter has not

been used - corrected (also ver. 3.5 and 3.0).

15.03.2006: **fileheader** for a 3D-datafile - the traceincrement has been changed when the startcoordinate has been changed in profiledirection for a 3D-datafile (datatpye 3D-const.offset) - corrected, now it will not be changed any more (also ver. 3.5 and 3.0).

15.03.2006: **actualize traceheader** based on **fileheader3D** - with profiledirection Y the xy-traceheadercoordinates have been exchanged when using the actualization type fileheader 3D - corrected (also ver. 3.5 and 3.0).

14.03.2006: **2D-dataanalysis** - processing option **marker interpol**: if used with a **3D-file** no trace will be added at the end of the profile.

14.03.2006: **2D-dataanalysis** - processing option **extract**: new suboption **from xy-tracecoord**. which allows to automatically determine the wanted traces from the xy-traceheader coordinates.

14.03.2006: **2D-dataanalysis** - **migration**: new option **3D-Kirchh.2D-vel**. which allows a 3-dimensional Kirchhoff migration based on a 2-dimensional velocity distribution.

10.03.2006: **2D-dataanalysis** - **import IDS-data**: until now the lost traces have been ignored during the import - now these data (zero traces) will also be imported.

10.03.2006: **2D-dataanalysis** - **compress 3D-file**: the lineincrement has not been updated if the 3D-file has been compressed perpendicular to the profile direction (factor (line-perp.)) - corrected (also ver. 3.5 and 3.0)

06.03.2006: **2D-dataanalysis** - **axis labelling**. Automatic control if the max. label lies outside the image and plots it at a higher level

22.02.2006: **modelling random media**: the random layer generation has been extended to **3D** - new parameter corrlength (y) which controls the correlationlength in the 3. (y) direction.

15.02.2006: **2D-dataanalysis** - **SEGY-import**: activated option **read traceincr**. could lead to a wrong traceincrement (much too high) - corrected.

10.02.2006: **3D-datainterpretation** - **create 3D-file from 2D-lines**: now the traceheader coordinates are automatically updated for the resulting 3D-file.

10.02.2006: **2D-dataanalysis** - processing option **correct 3Dtopography**: new radio box with lin.interpol. and sqr.interpol. which allows to select the wanted spatial interpolation (linear or quadratic) - default value is linear for a 2D- and quadratic for a 3D-profile. Now it is also possible to take the coordinates from the fileheader for a 3D-file (in the previous versions the coordinates must have been taken from the individual traceheaders).

10.02.2006: **modelling** different extensions:

- new option **1:1** which allows to display the model without distortion
- new option **Reflex rasterfile** within ray and FD-panel which allows to create a Reflexw formatted rasterfile.
- new option **raster** within tomography panel which controls if the actual model shall be rastered or if an already existing raster file will be used.
- the lower boundary for sigma was set to 0.0001 (smaller values are set to 0) - this boundary has been decreased to 0.00001.

02.02.2006: **2D-dataanalysis** - **import** with conversion sequence **multichannel**: Now it is possible to import several multichannel files within one step. The profiles are assumed to be parallel. The option line distance determines the distance between the individual parallel lines, the option antenna inc defines the distance between the different antenna. Meandering is also supported.

31.01.2006: **2D-dataanalysis** - **manual scaling**: the entered manual scaling values have not been updated if the ploption man. for the manual axis subdivision was activated - corrected.

31.01.2006: **2D-dataanalysis** - **export bitmap**: now the (comment) markers are also used for the wiggle output if the ploptions marker or comment markers are activated (also ver. 3.5).

25.01.2006: **2D-dataanalysis - view TraceHeader axis:** option was not active when printing the profile - now it is available for the printing.

17.01.2006: **modelling - random layer:** if more than 2 layer have been modelled with random layers an access violation could occur - corrected.

12.01.2006: **2D-dataanalysis - view profile histograms:** a property was missing - corrected.