Reflexw 6.0/5.5/5.0/4.5 news history (from 24.07.2007 to .....):

16.01.2012: **2D-dataanalysis - layershow - export:** new option **pinching out layer** which also takes into account if a layer is pinching out.

16.01.2012: **general menu display**: some menus had not been shown in full size if large Windows text size had been entered within the Windows system - corrected now.

21.12.2011: **3D-datainterpretation - generate 3D-file**: new option **update traceheader coordinates** - if deactivated the original traceheader coordinates (e.g. GPS-coordinates) will be preserved.

09.11.2011: **2D-dataanalysis - import IDS-data** with activated option **header codes**: now also the code for an inverse profile will considered (automatic flipping in profile direction).

09.11.2011: **2D-dataanalysis - Xflip-3DFile:** the flipping for each ensemble has been included.

24.10.2011: **2D-dataanalysis - import RADAN** data with **GPS-TMF** file: if the file has been splitted during the import due to a too big number of **max. traces** the gps-tmf markers had been started at 0 for each data part - corrected now.

19.10.2011: **2D-dataanalysis - import**: **update traceheaders and utm-conversion** - new option box for the utm-conversion which allows to specify where the latitude values have been stored within the Reflexw traceheaders during the import.

16.10.2011: **modelling - print**: when printing with activated option **altitude** the loaded traveltimes had not completely been printed - corrected now (also in ver.5.6).

11.10.2011: **2D-dataanalysis - import Mala** (Ramac) data: due to different formats within the original rad-files the nominal frequency was not always taken over correctly - corrected now (also in ver.5.6).

08.08.2011: **2D-dataanalysis - edit traceheader** option **save on ASCII**: new option batch start which allows to save the traceheader values of different files within one ASCII-file.

25.07.2011: **2D-dataanalysis - correct 3Dtopography:**
- with activated suboption **project on x-or y-axis**: suboption had no effect - corrected now
- correction based on depths lead to a constant timedelay - now this timedelay has been removed

05.07.2011: **2D-dataanalysis - edit traceheader** option **correct for offset in profile direction**: now the option allows to correct the xy-GPS coordinates for an offset in profiledirection and perpendicular to it.

05.07.2011: **2D-dataanalysis - update traceheaders**: new option **GSSI-GPS** - allows to import the GPS-data from the newer GSSI-systems (SIR-30, SS-Mini, file extension dzg), included within the tracheader menu, several fileheader menu and import menu.

05.07.2011: **2D-dataanalysis - pick**: **automatic pick loading** and **automatic pick saving** - some improvements concerning the handling of these options have been included.

05.07.2011: **3D-datainterpretation - pick surfaces for 3D-cube**: new check if a selected pick code and color is wrong (codes smaller/equal 0 and black color).

02.07.2011: **2D-dataanalysis - import update traceheaders**: new option **use data folder** - if activated the gps-files will be searched under the original data folder. Pecularity for IDS-GPS data: The 4th character indicating the channel number within the automatically defined GPS-filename will be set to 1 if the

corresponding filename does not exist. This might be necessary when multiple channels of data were collected. New update option GSSI-GPS (file extension dzg).

02.07.2011: **2D-dataanalysis - dataimport**: new **prefix** for original filename which will be placed in front of the original file name.

02.07.2011: **2D-dataanalysis - dataimport**: new option **no 32bit-systemmarker** - if activated the systemmarkers for 32Bit Radan data will be ignored. The system marker within the original Radan data must have the value -469762048.

02.07.2011: **2D-dataanalysis - dataexport**: new option **scaling** for the export formats RADAN 16Bit, PULSEEKKA and MALA RD3, which allows to to rescale data with a higher data representation than 16 bit.

02.07.2011: **2D-dataanalysis - dataexport**: new export format **RADAN 32 Bit**.

28.06.2011: **2D-dataanalysis - topography migration:** now a linear interpolation instead of sqr interpolation will be done for the calculation of the topographic values.

28.06.2011: **2D-dataanalysis - import 32 bit GSSI Radan-data** (SIR-30, SS Mini): the marker detection for this new format has been adapted and the data start has been set to 131072 bytes (128 kb) if not defined within the Radan header.

28.06.2011: **2D-dataanalysis - import IDS-data** with activated option **header codes**: newer IDS-systems use a different code for the relative antenna positions - now this will be considered.

20.06.2011: **2D-dataanalysis - CMP-processing:** now the CMP-sorting and stacking also works for a geometry with ascending x-coordinates and descending y-coordinates and vice versa.

10.06.2011: **modelling - analyze** new options **calculate traveltime differences using actual coord.projection** and **calculate traveltime differences using all coordinates.** The two options differ in the method to determine the common positions. If calculate traveltime differences using actual coord.projection has been chosen only the x-, y- or z-coordinates are used depending on the settings within the traveltimes radiogroupbox (x-project, y-project or z-project). If calculate traveltime differences using all coordinates has been chosen all coordinates are used.

08.06.2011: **2D-dataanalysis - import** with update traceheaders based on **WSKTRANS-GPS:** the filename extension may be either ut or utm.

08.06.2011: **modelling - raytracing**: new option **highlighted shot** which may be used for choosing a shot number to be highlighted. The traveltimes and the rays which correspond to this shot number will be highlighted.

08.06.2011: **modelling - raytracing** based on **data traveltimes**: Now for the automatic filename determination an additional label ('x' for changing x-position and 'z' for changing y(z)-positions) and a multiplication factor if DeltaX is smaller than 1 (factor 10, 100 or 1000) will be used.

04.06.2011: **2D-dataanalysis - import ASCII-Matrix**: now the end of line may consist of the following characters: pure Chr(10), pure Chr(13), both Chr(13) and Chr(10)

03.06.2011: **2D-dataanalysis - edit traceheader**: update based on **gps-times** with **ASCII1-format** - an access violation occured - corrected now.

03.06.2011: **2D-dataanalysis - CMP-processing**: **picking** within the CMP processing window was restricted to a special number of ensembles. This restriction has been removed now.

01.06.2011: **2D-dataanalysis - import** with **update traceheader** based on **Geode-GPS**: it might happen that the FFID's had not been correctly assigned - corrected now.

31.05.2011: **2D-dataanalysis - import UTSI data**: now also 32 bit data from UTSI can be imported. As outputformat you must choose new 32 bit floating point.

23.05.2011: **2D-dataanalysis - edit comment markers**: option **create** - new suboption **start/end** which allows to add distance markers at the start and the end of the profile.

21.04.2011: **2D-dataanalysis - surgical mute**: new option outside mute and inside mute now mutes the data within the fan defined by two velocites.

29.03.2011: **2D-dataanalysis - correct 3D topography**: if the correction was done based on the z-traceheader coordinates no timeshift has been considered if the correction was done for altitudes - corrected now (also in ver. 5.0).

29.03.2011: **2D-dataanalysis - export bitmap**: the export to bitmap did not work with activated plotoption traceheaderdistancies - corrected now (also in ver. 5.0).

24.03.2011: **2D-dataanalysis - export SEGY**: The elevation are also exported into bytes 45-48 and 49-52 of the SEGY-traceheaders in addition to the bytes 53-56 and 57-60.

24.03.2011: **2D-dataanalysis - import SEGY**: Now the bytes 45-48 and 49-52 within the SEGY-traceheaders are used for the **elevations**. If they are 0 the bytes 53-56 and 57-60 are used.

25.02.2011: **2D-dataanalysis - split file**: it could happen that the tracenumber of the last splitted ensemble was set to 0 - corrected now (also in ver. 5.0).

25.02.2011: **2D-dataanalysis - update traceheader gps times**: a problem could occur if the NMEA file contained $GPGLL strings - corrected now (aslo in ver. 5.0).

12.01.2011: **2D-dataanalysis - import multichannel RADAN** data using **TMF-GPS** file: with deactivated option GPS mark/times the GPS-coordinates had only been imported into the first channel - corrected now for all channels.

14.12.2010: **2D-dataanalysis - import SEGY-data**: new option unsigned - if activated 16 bit integer SEGY data (format code = 3) are assumed to be unsigned (no SEGY-standard).

22.11.2010: **2D-dataanalysis - pick code** with activated option **use layershow-col.**: now the colors of the pick codes correspond to the colors of the layershow (pick code 1 = layer number 1).

10.11.2010: **traveltime analysis - auto combine**: due to a rounding problem it could occur that the max. reverse or forward traveltime was assigned to a wrong value resulting in a large difference between forward and reverse traveltime- corrected now.

02.11.2010: **3D-datainterpretation:** for very large datasets an error message "variant array .." could occur - corrected now.

02.11.2010: **2D-dataanalysis - average xy**: the traceheaer coordinates had been moved by one trace after application - corrected now.

19.10.2010: **2D-dataanalysis - import RADAN** data using **TMF-GPS** file: if no GPS signal is present the program now automatically calculate the GPS UTC end time either from the times of the GPR unit or from the number of traces and the scanrate.

15.10.2010: **2D-dataanalysis - open 1.-4. file** and **view core data/1D-models**: until now only the core data for up to 2 profiles have been displayed - corrected now (also in ver.5.0).

04.10.2010: **2D-dataanalysis - import ASCII-MATRIX**: now the data do not need any more to contain a line feed character and the carriage return character at the end of each line. Now only one of both characters is suffcient (standard in some editors).

28.09.2010: **modelling**: for the **sh-seismic** wavetype the model parameter for filling and viewing is automatically set to vs now.

28.09.2010: **CMP velocity analysis**: now the size of the window for the **NMO corrected traces** can be changed within the global settings menu - option NMO scale.

21.09.2010: **modelling - import (x,z)**: a problem could occur if the ASCII topography file does not contain the velocities and the vertical gradients. In this case the vertical gradients of the actual layer had been replaced by the original layer velocities -corrected now.

03.08.2010: **2D-dataanalysis** - activated plotoption **Rotate90Degree**: no coordinates have been shown with activated option - changed now (also in ver. 5.0).

28.07.2010: **3D-datainterpretation - 3D cubedisplay**: the manual axis names options had been hidden - corrected

27.07.2010: **2D-dataanalysis - velocity adaptation**: max. number of adaptations (e.g. diffractions) extended to 500 (former 100).

26.07.2010: **2D-dataanalysis - pick** with suboption **interpolate**: now the paramter n.trace defined within the addional plot options will be taken into account for the option interpolate whereby only nth.pick will be interpolated in order to decrease the number of picks.

19.07.2010: **2D-dataanalysis - data type single shot/borehole**: problems with the geometry could occur when entering the offsets - corrected now.

07.07.2010: **2D-dataanalysis - extract**: now the edit values can also be saved and loaded from an ASCII file.

07.07.2010: **2D-dataanalysis - distance marker display**: new option within the **global settings** menu which allows to switch between recrangle and dashed line for the display of the distance markers.

01.07.2010: **2D-dataanalysis - analyse comment markers**: the option did not work with activated plotoption **energy decay** - corrected now.

29.06.2010: **2D-dataanalysis - manual gain (y)**: now the filename which has been used for loading the gainvalues (e.g. within the sequence processing) will be displayed within the processing flow menu.

23.06.2010: **2D-dataanalysis - import**: now the file processingflow will be updated if a profile will be flipped in x-direction during the import (e.g. meandering data acquisition).

15.06.2010: **CMP-velocity analysis**:

- new options for a fast switch between wiggle and point mode and changing the amplitude scale.
- new option **backshift** which allows to take into account a backshift timevalue which compensates the effect when using delayed wavelet maxima for the **semblance** or **unnormalized crosscorrelation** analysis.

04.06.2010: **2D-dataanalysis - export to SEGY**: a problem could occur when exporting data to SEGY wich had been processed using the 2D-filter running or subtracting average - corrected now.

01.06.2010: **2D-datanaalysis - plotoptions**: new option **no interp.f.min.color** - if activated no interpolation will be done for amplitude values lying within the min. color range. This might be useful for plotting a tomographic inversion result which has been restricted to the covered area..

01.06.2010: **modelling - tomography** with activated **topography**: for the case that the receivers and the shots are autoamatically placed on topography (z-coordinates of the input data were 0 or above the topography) the accuracy of this automatic determination has been increased.

01.06.2010: **modelling - analyse/calculate traveltime differences** - now also the RMS deviation will be output. The same holds true for the option within the traveltime analysis module.

01.06.2010: **modelling - tomography**: new option **restrict to covered area** - if activated the velocties (values) outside the area covered by rays will be set to 0.

27.05.2010: **2D-dataanalysis - CMP-processing**: new options **next and prev.** which allow to switch to the next or previous ensemble(s). The start and end ensemble will be increased (decreased) by the entered increment.

27.05.2010: **2D-dataanalysis - CMP-processing**: new option **offsets** which allow to optionally only show ensembles with positive or negative offsets between shot and reveiver.

27.05.2010: **modelling - import (x,z) -** now the ASCII file may contain some non defined ASCII-characters (chr(0), chr(254) and chr (255)) which may have been included using some editors.

19.05.2010: **2D-dataanalysis - load picks**: now also **2D-tomography** files (*.tom) can be loaded

19.05.2010: **2D-dataanalysis - merge files** and **combine files f.cmp**: the max. number of files to be merged or combined was restricted to 200 - now up to 3000 files can be merged.

12.05.2010: **2D-dataanalysis - markerinterpol.**: suboption **keep all dist. markers** only worked correctly if the resulting total number of traces after the marker interpolation was smaller or equal the original number of traces - corrected now.

26.04.2010: **2D-dataanalysis - update traceheader**: if updating the traceheader coordinates from **NMEA** GPS coordinates the last decimal place was not taken into account - corrected now (also in ver.5.0).

16.04.2010: **3D-datainterpretation**: new option **auto bitmap export** for the **scroll mode** - if activated a png bitmap-file will be automatically created when plotting a new cut.

12.04.2010: **2D-dataanalysis - 3D-Kirchh. migration**, **3D-Kirchh.2D-vel.** and **3D-diffraction stack**: a memory overflow could occur - corrected now.

31.03.2010: **traveltime analysis - insert zero shot time**: the **z-receiver coordinate** for the inserted zero shot time pick had been taken from the first receiver. Now it is set to the z-shot coordinate (also in ver.5.0/4.5).

31.03.2010: **2D-dataanalysis - xy-filters**: the time restriction (start time and end time) did not work - corrected now (also in ver.5.0)).

26.03.2010: **2D-dataanalysis - layershow**: new option **2.line/lay** which allows to load a second line together with a layershow.

26.03.2010: **2D-dataanalysis - import**: new data types **single shot/boreholes** which can be used for a borehole/borehole geometry and **single shot/VSP** which can be used for a borehole/surface geometry (in both cases easier input of the geometry than before).

26.03.2010: **2D-datanalysis - import**: new import ASCII format for a 3D-dataacquisition named **ASCII-3D-Koehler**.

26.03.2010: **2D-dataanalysis - view**: new option **act sample informations** - if active a window opens near the actual cursor position showing the actual trace and sample number, the amplitude, the distance and the time.

26.03.2010: **2D-dataanalysis - plot options**: a new groub box named **display split** has been introduced which replaces the old options ver. split and hor. split. The different split options now can also be reached directly via speed options wihtin the 2D-dataanalysis menu.

26.03.2010: **2D-dataanalysis - pick**: now the picks will also be plotted on the 3. and 4. line if the global settings option **plot on 2. line** has been activated.

24.03.2010: **2D-dataanalysis - markerinterpol**: the option **read marker** now automatically includes a marker at the beginning and/or at the end within the tabella if the option first trace marker and last trace marker are activated. This allows you to enter a different marker increment also for these ranges.

18.03.2010: **2D-dataanalysis - save picks - ASCII- columns**: now the **trace numbers** can be exported in addition.

15.03.2010: **2D-dataanalysis - sequence processing - start batchfile(s)**: now the chosen seq batchfiles will be sorted alphabetically in ascending order.

05.03.2010: **2D-dataanalysis** - **traceheader menu** - update option **gps-times**: now a warning message appears if the gps times do not fit in with the traceheader times. This may occur e.g. if a wrong gps-file has been loaded.

04.03.2010: **project directory**: if the Reflexw subdirectories do not exist after having chosen any project directory using the confirm option a message dialog appears which allows a cancellation.

04.03.2010: **CMP-velocity analysis**: the **plotoptions** AGC, energy decay, trace gain and dewow will not be used for the **semblance** plot any more.

03.03.2010: **modelling - create 2D-model from 1D-models:** it could occur that the last layer was ignored when creating the 2D-model - corrected now (also in ver. 5.0).

02.03.2010: **2D-dataanalysis - wiggle window**: new suboption **trace spectr**. which allows to calculate the phase spectrum of the actual trace.

02.03.2010: **2D-dataanalysis -** new processing option **trace phase-spectr.** under complex trace analysis: allows to calculate the phase spectrum of the traces.

02.03.2010: **2D-dataanalysis - intercept time velocity adaptation**: now the actual shotposition will be saved within the 1D-model (extension vel) which allows a direct use of the 1D-models within the 2D modelling menu..

18.02.2010: **2D-dataanalysis - processing flow:** now the option **several files** also acts on reset the processing flow. If activated the processing flows of a number of choosable files will be reset.

18.02.2010: **2D-dataanalysis - extract:** new option **shift profile start coordinate** - if activated the profile start coordinate will be shifted according to the coordinate of the first chosen trace number.

11.02.2010: **2D-dataanalysis - layershow - create report**: with activated option **marker comments** an error message appeared if no comment markers are present - corrected now (also in ver. 5.0).

02.02.2010: **2D-dataanalysis - RADAN import**: the **TMF** (time marks file) datafile which is used for gps coordinates was not supported for 2 or more channel data - now the tmf data are also imported into multichannel data (also in ver.5.0 and ver 4.5).

***** new version 5.5 - released 01.02.2010

22.01.2010: **2D-dataanalysis - edit traceheader/traceheader tabella - load from ASCII file**: if 0 the distance had been calculated from the total difference between each shot and receiver. Now the program controls whether all distancies within the ASCII-file are 0 and only if this hold true the distancies will be calculated from the total difference between each shot and receiver.

22.01.2010: **2D-dataanalysis - 3 component analysis**: the option **start time for analysis window** had not taken into account for the xyz-hodogram analysis within the Cube3D menu (option planes/**xyz** active).

18.01.2010: **2D-dataanalysis** - **print frame**: the frame was not correct if more than 2 profiles had been printed - corrected now (also in ver. 4.5).

18.01.2010: **2D-dataanalysis** - **print marker**: if page blocking is active the marker printing was not restricted to the actual print area - corrected now.

18.01.2010: **2D-dataanalysis** - **marker** with active plotoption **trace header distancies**: the marker positions had been shifted if the plotting is done using the trace header distancies and if the profile start coordinate was not 0 - corrected now (also in ver. 4.5).

22.12.2009: **2D-dataanalysis - bandpassbutterworth**: the option did not work correctly if the filter had been restricted to a special distance range (option distance range/all traces deactivated) - corrected now (also in ver. 4.5).

10.12.2009: **3D-datainterpretation - Reflex2D-file** under **Scroll**: the fileheader coordinates of the resulting 2D-file now represent the correct position within the original 3D-file.

09.12.2009: **2D-dataanalysis** - **print 3 or 4 profiles** with deactivated hor. and ver.split - the axis for the 2. profile had not been printed - corrected now.

25.11.2009: **modelling - fd acoustic and elastic**: the implementation of the **Ricker** wavelet has been improved.

19.11.2009: **2D-dataanalysis - timedepth conversion** with velcoity model from **CMP**-analysis: under special conditions an invalid floating point operation error could occur- corrected now (also in ver. 4.5).

28.10.2009: **2D-dataanalysis - import MALA RD6** data from CX-system: the import has been improved based on new informations from Mala. The files with <name>_1.rd6 are orientated in vertical (y-) direction and the files with <name>_2.rd6 are orientated in horizontal (x-) direction. The profiledirection and profileconstant settings will be done automatically based on these informations.

17.10.2009: **2D-dataanalysis - import Mala data**: The **nominal frequency** for high frequency data was not read because of non standardized format (ANTENNAS:HF 1,6 GHz shielded) - changed now.

16.10.2009: **2D-dataanalysis - correct 3D-topography**: new option box correction which allows to specify whether the topographic values are given in **altitudes** (default) or **depths**.

18.09.2009: **2D-dataanalysis - extract**: suboption **use line parts** now also available for processing option extract.

27.07.2009: **2D-dataanalysis - split file:** an error message occured when a trace number greater than the total number of traces had been entered - corrected now.

27.07.2009: **2D-dataanalysis - print:** when printing the 3. and 4. profile on more than one page (pageblocking or pagesize greater than one page) the scaling of the 3. and 4. profile was different from the other profiles on the last page - changed now.

27.07.2009: **2D-dataanalysis - color bars:** the size of the color bar will now be automatically adapted to the used fonts. The scalings will now be updated for tracenormalized display when the plotscale value changes.

17.07.2009: **2D-dataanalysis-edit comment marker**: the option create using ASCII-file within batch mode used the actual primary file as the reference start level - changed - now the start position of each file will be used.

18.06.2009: **2D-dataanalysis - bandpassfrequency** used within **sequence processing**: The application of the bandpassfrequency filter within the sequence processing mode was restricted to the number of traces of the file used when the sequence processing flow has been created. If a file with more traces than that number will be filtered within the sequence processing mode the filter will not be applied on the remaining traces - corrected now.

16.06.2009: **2D-dataanalysis - layershow/create report**: new suboption check single values for summary comment output. With the option activated a new check has been included if only one pick exists at the start and/or at the end of the distance range defined by two successive comment markers. Those picks will be neglected in this case. This might be useful if due to rounding problems a pick reaches into a non desired comment marker range.

10.06.2009: **2D-dataanalysis - view/add. 2 colum data**: new suboption flip y-axis which allows to flip the y-axis for the display of the 2.colum data.

09.06.2009: **2D-dataanalysis - layershow/create report**:
- new suboption **traveltimes** which allows to output the traveltimes of the picks in addition. No averaging will be done for the traveltimes.
- option **layer codes** did not work correctly if some layer numbers had been missing for the layershow, corrected now.

08.05.2009: **3D-datainterpretation - 3D-cube display**: until now the option **envelope timeslices only** did not work completely. Now the timeslices will be displayed using the envelope and the xy-cuts are displayed in “normal” plot mode.

06.05.2009: **2D-dataanalysis - surgical mute**: suboption **around**, within the crossing areas of the trajectories the tapers had not defined correctly - corrected now.

05.05.2009: **2D-dataanalysis - show profile line**: new option **distortion free** which allows to show the profile line with the same scaling factors for the x- and y- coordinates.

05.05.2009: **CMP-velocity analysis**: now the buttons **F2** (enter plotoptions) and **F3** (reset display) are also available for the CMP-velocity analysis menu.

04.05.2009: **2D-dataanalysis - CMP-processing**: after having **zoomed** within the CMP-processing display the coordinates had not been displayed any more and an additional zooming was impossible - corrected now.

22.04.2009: **2D-dataanalysis - merge/attach profiles**: if zero traces will be included (gap between the profiles) the xy-traceheader coordinates within the gap will now be interpolated from the given end xy-coordinates of the first profile and the start xy-coordinates of the second profile.

22.04.2009: **traveltime analysis**: **apply xz-topography** - until now the z-values must represent depths. Now you can choose between depts and altitudes. If altituted has been chosen the depth values will be caluclated from the difference of the entered reference level and the altitiutde values.

26.03.2009: **2D-dataanalysis - autopick**: new options for **continuous pick** which allow a more accurate picking.

20.03.2009: **2D-dataanalysis - pick**: shift existing picks - new option **size** which defines the amount (multiples of the actual increment) of the shift.

18.03.2009: **2D-dataanalysis - import**: new input format MALA RD6. In addition the old format RAMAC has been renamed to MALA RD3. The RD6-format is used with the Mala CX system for the acquisiton of a 3D-grid.

05.03.2009: **2D-dataanalysis**-processing option **split file**: now the load/save option are also available.

19.02.2009: **2D-dataanalysis - pick**: **load** picks which had been saved using a traceincrement different from the actually loaded profile. Now it is possible to update the distancies of the picks instead of updating the tracenumbers. This might be useful if picking had been done and afterwards a false traceincrement or a false starting point of the profile had been dicovered.

18.02.2009: **2D-dataanalysis - import**: new **conversion sequence several lines** which should be used e.g. in combination with the datatype single shot in order to import several single shots within one step. The program checks whether the trace coordinates are present within the original data and synchronizes the Reflexw traceheader coordinates and the fileheader coordinates automatically.

18.02.2009: **2D-dataanalysis - layershow**: create **report** with suboption **summary comment data**. Now the start and end position can be entered in order to be able to restrict the distance range of the report output.

12.02.2009: **2D-dataanalysis** - plotoption **TraceHeaderDistancies** in combination with **pointmode**: the automatically determied filling size has been increased in order to avoid stripes.

10.02.2009: **2D-dataanalysis-edit comment marker**: new option move which allows to shift the actually loaded markers (comment and/or distance markers) by a choosable increment. The option is also available within the batch mode.

30.01.2009: **2D-dataanalysis-global settings**: now the actual settings for the pick symbol, the core showlabel and the core showborder will be saved within Reflexw.ini after leaving Reflexw

19.01.2009: **2D-dataanalysis - traceheader menu:** new update option RD-conversion (netherlands) which allows to convert the coordinates given in degrees or arcsecs into the RD coordinates of the Netherlands.

19.01.2009: **2D-dataanalysis - create layershow** with activated option layershow and velocityfile: the interpolation of the velocities has been improved for the case of vanishing upper layer.

19.01.2009: **2D-dataanalysis - import**: new option **check data for NAN**: if activated the data will be checked for so-called non data values. These values will be set to 0. Activating this option might be useful if a problem occured during the data acquisition.

19.12.2008: **modelling - tomography**: now the options averagex, averagez, min. and max. velocity are also available for the **3D-tomography**.

12.12.2008: **2D-dataanalysis - SEGY-import**: now the byte 21-24 (ensemble number) will also be exported as inline tracenumber. Such a number is necessary for some external programs using SEGY-data.

12.12.2008: **2D-dataanalysis - view coredata**: now it is also possible to define the z-positions within the corefiles which will be used for example if a topography has been included within the profile. The new format is:
2. line: current location (x,y and z) within the 2D-line (floating point format)
The y-location must be defined but will not be used within the 2D-dataanalysis.

05.12.2008: **2D-dataanalysis - bandpassfrequency**: new filter types **cos**2-taper**, **butterworth** and **high/low butterworth** which allow more possibilities to get a good compromise between filter induced reverberations and wanted bandpass characteristics.

26.11.2008: **2D-dataanalysis - traceheader tabella** - new option update distancies: option is identical to the update option calculate distancies within the traceheader menu.

23.11.2008: **2D-dataanalysis - traceheader menu** - update option **gps-times**: now another ASCII-format is supported based on the NMEA standard. This extends the import possibilities of GPS-data from GSSI devices which use a tmf-file and NMEA based GPS-output files. The option gps-times is now also availabe within the edit several files menu (here only for NMEA based GPS data).

07.11.2008: **2D-dataanalysis - pick, autom.load**: new option which allows to enter a postposition for the pickfilename which shall be automatically loaded.

30.10.2008: **2D-dataanalysis - utm conversion** within the traceheader menu:
- new option **degrees** or **arcsecs** - specifies whether the original data are given in degress or in arcsecs.
- for the datatype single shot the geophone coordinates have also been used for the original shot coordinates when performing the utm-conversion - corrected now.

27.10.2008: **modelling - tomography**: if the 3D-tom fileformat has been used together with z-coordinate as the second coordinate the curved ray did not work in some cases - corrected now.

27.10.2008: **3D-datainterpretation - 3D-cube:**
- cube cutting: now the corner point will be automatically determined and two new option set to 0 and set to max have been included..
- 2 new options **black background** and **display rotation axis**. With black background activated the background is displayed using the black color. With display rotation axis activated the actual orientation

of the axis is shown at the right bottom corner.

21.10.2008: **modelling** - now the **3D-tomography** also works for electromangetic wavetype - corrected also for ver. 4.5 and 4.2.

17.10.2008: **modelling** - option **generate pickfile (2-way traveltimes)**: the pick values were not correct for the wavetype electrodynamic - corrected now also for ver. 4.5 and 4.2.

14.10.2008: **2D-dataanalysis**: - when entering 0 value for **plotscale** a floating point overflow messge appears and **magnifying glass function** is automatically disabled for wiggle mode during picking - both occured only ver. 5.0 - corrected now.

***** new version 5.0 - released 30.09.2008

25.09.2008: **modelling** - **raytracing** with **random layer** and **topography**: could lead to problems if the receiver line has been defined along the topography - corrected now.

22.09.2008: **3D-datainterpretation** - **second 3D-file:** if the processing form had been opened once again the second 3D-file had been deactivated - corrected now.

15.09.2008: Plotoption **pointmode** - the suboption **ShowWiggle** didn't work any more - now again available.

04.09.2008: **2D-dataanalysis** - **save traceheader dst ASCII-file**: when saving the traceheader coordinates to a dst ASCII-file either within the traceheadertabella or within the cmp-geometry menu no blanks had been included for negative values which could lead to problems when reading this file - corrected now.

04.09.2008: **2D-dataanalysis** - **update traceheader using ASCII-dst file**: now the tracenumber within the first column may also be a floating point value. Until now an integer value was necessary.

05.08.2008: **2D-dataanalysis open 1.-4. Line**: with deactivated options ver.split and hor.split the axis for the 2. Line have not been shown any more - corrected now.

05.08.2008: **2D-dataanalysis** - processing options **normalize profiles** and **normalize 3D-profile** with option constant normalizing factor: the resulting scaling factor was wrong - corrected now.

31.07.2008: **2D-dataanalysis - load ASCII-picks**, e.g. 2-colums or 2D/3D ASCII tomography: until now editing of the picks was only correct after having saved the picks using the "normal" Reflexw format and reloaded these Reflexw picks because otherwise the tracenos of the picks had not been set correctly. Now editing of the picks is possible directly after having loaded them using any of the ASCII-formats - also in ver. 4.2.

10.07.2008: **2D-dataanalysis - update traceheader**, option **utm-conversion**: for the datatype single shot the shot coordinates have not been converted into utm coordinates - corrected now.

30.06.2008: **2D-dataanalysis - update traceheader**, option **Pulse-Ekko GPS**: depending on the order of the different lines within the gps-file it could happen that the GPS-coordinates could not read in - corrected now.

27.06.2008: **3D-datainterpretation - generate single timeslices**: some **plotoptions** were not available from the generate single timeslices menu - corrected now.

27.06.2008: **modelling - raytracing**: the **3D-ray** parameters were not visible - corrected now.

27.06.2008: **modelling** - option **fill**: now the y-coordinate (option y-coord.) will be stored with the Reflexw rasterfile of the actual model.

13.06.2008: **3D-datainterpretation-generate single timeslices:** new error message included if the timeincrement of any loaded 2D-line is smaller/equal 0.

06.06.2008: tab-characters now allowed within the **ASCII-files** between the individual parameters (e.g. fdshots file for generating several FD or raytracing simulations.

23.05.2008: **traveltime analysis** - **wavefrontinversion**: **ns (GPR) - data** have not been supported for the wavefront inversion. Now also these data can be used with the wavefrontinversion method.

07.05.2008: **2D-dataanalysis** - **edit several fileheaders**: a problem occured with the intoduction of the new suboptions utm-conversion and calculate distancies on 29.02.2008 - some gps formats for the traceheader update had not been supported any more - corrected now.

30.04.2008: **2D-dataanalysis - import IDS-data**: until now the traces with flag 1618 have been ignored during the import - now these data will also be imported.

29.04.2008: **2D-dataanalysis - pick**: **interpolate** with suboption **all** interpolates all last picks which have at least one trace gap. The interpolation stops if two successive picks will be found.

25.04.2008: **2D-dataanalysis - overlay profiles**: the Colorbars now define the color assignment of the secondary file if the first fil has been plotted using the wiggle mode.

25.04.2008: **CMP-velocity analysis - 2D-model**: now the coordinates for the 2D-model wil be taken from the entered coordinate values when using the option show (e.g. in order to generate a Reflexw rasterfile).

23.04.2008: **2D-dataanalysis** - **fk-filter lineparts**: There still existed some filter effects from the discontinuous data steps at the shot changes. Corrected now also for ver. 4.2.

18.04.2008: **2D-dataanalysis** - **traceheader coordinates**: the 64 bit high resolution of the traceheader coordinates had been lost when using the processing options running average, subtracting average, average xy-filter and median xy-filter - corrected now also for ver. 4.2.

18.04.2008: **2D-datainterpretation - update traceheader** with type **RAMAC-GPS**: Now the latitude coordinates are set to negative values for Northing equal ‘S’ and positive input values or Northing equal ‘N’ and negative input values. The longitude coordinates are set to negative values for West equal ‘W’ and positive input values or West equal ‘E’ and negative input values (also in ver. 4.2).

10.04.2008: **2D-dataanalysis sequence processing** for option **make equidist.traces**: until now the start and end distance range was fixed by the given processing parameters - now the start and end range will be separately determined from the min./max. traceheader distancies of each profile.

10.04.2008: **2D-dataanalysis-layershow**: option **export** - no negative distance values had been considered - corrected now (also in ver. 4.2).

18.03.2008: **2D-dataanalysis-export:** new export format FREE 32BIT.

29.02.2008: **2D-dataanalysis** - **edit traceheader**: the setting of the suboption **latitude** was lost when leaving the menu - now it is kept even if the program will be closed.

29.02.2008: **2D-dataanalysis** - **edit several fileheaders**: new suboptions **utm-conversion** and **calculate**

distancies which can be activated if any of the GPS-formats have been chosen as UpdateTraceHeaders type.

25.02.2008: **2D-dataanalysis** - processing option **make equidist.traces** under traceinterpolation: now the markers will be kept even if a big traceincrement is chosen or if the markers are located in areas where the antenna has not been moved.

25.02.2008: **2D-dataanalysis** - processing step **marker interpol**: new option **update actual picks** - if activated the actually loaded picks will be relocated corresponding to the normal profile. After having performed the processing step the pick save menu opens which allows to store the new relocated picks. The option is only enabled if picks have been loaded and the option is not available within the sequence processing.

25.02.2008: Plotoption **pointmode** - now the option **traceheader distancies** is also available for the pointmode. With the option traceheader distancies activated non equdistant data are plotted based on the traceheader distancies.

25.02.2008: **2D-dataanalysis** - new processing step **normalize profiles** under gain: this processing step is designed for an energy equalization of different 2D-profiles. The processing step is only useful within the sequence processing for several profiles. If used for a single profile within the gain-menu no effect is given. The option is useful to compensate different coupling conditions, e.g. if an antenna array has been used for acquiring parallel 2D-lines.

25.02.2008: **2D-dataanalysis** - new processing step **normalize 3D-file** under gain: this processing step is designed for an energy equalization of a 3D-file. The option is useful to compensate different coupling conditions, e.g. if an antenna array has been used for acquiring the 3D-datafile.

12.02.2008: **2D-dataanalysis - update traceheader**: new update option **Marker-GPS** which synchronizes the GPS-data within the ASCII-file with present data markers.

29.01.2008: **2D-dataanalysis - import dzt-data**: new option **marker autodetect** - if activated the min./max. marker values will be automatically determined from the RADAN-data format.

25.01.2008: **2D-dataanalysis** - processing option **make equidist.traces** under traceinterpolation: the interpolation of the traceheader coordinates was not very precise - could lead to undulations if the coordinate values are quite large - corrected now (also in ver. 4.2).

25.01.2008: **2D-dataanalysis - edit traceheaderMenu**: button apply was enabled - could lead to an access violation, disabled now (also in ver. 4.2).

22.01.2008: **2D-dataanalysis - edit comment markers**: new option **set CC comments** - sets the construction change marker text to all blank comment markers.

22.01.2008: **2D-dataanalysis - open 1.-4.line**: if the options ver.split and hor.split had been deactivated the 2.line had been plotted using the overlay palette - changed now.

21.01.2008: **plotoptions - wiggle mode**: new option **use layershow colors** - if activated the layershow colors are used for plotting and filling the traces.

17.01.2008: **modelling - input of model parameters**: new option **export (x,z)** which allows the ASCII export of the xz-coordinates of the current layer.

16.01.2008: **3D-datainterpretation - generate single timeslices:** new summing option **max. abs.**

amplitude - if chosen the data are not simply added but the max. absolute value will be determined and this value is taken as the sum value.

14.01.2008: **2D-dataanalysis** - processing option **suppress mutiples**: new suboption **primary phase** - if activated the primary phase will be suppressed in addition.

04.12.2007: **3D-datainterpretation** - scroll option **ShowTimeSliceInAddition**: option has been extended for the case that the cut option slices has been activated - in this case the x- and y-cuts corresponding to the actual mouse position within the timeslice will be shown within the second window.

08.11.2007: **2D-dataanalysis - CMP processing/geometry/standard geometry**: new option **standard line direction** which allows to define the different goemetries for borehole/borehole and borehole/surface configurations.

07.11.2007: **2D-dataanalysis - traceheader tabella**: new option **x <-> y** which allows to exchange the x_ and y_coordinates of the sources and the receivers.

07.11.2007: **2D-dataanalysis - edit several fileheaders**: New option **offset -> x** for the **fileheader** update and for single shots. If activated the shot and receivers offsets are written to the corresponding x_traceheadercoordinates and the shot and receiver positions are written to the y-coordinates. If deactivated the y-traceheadercoordinates are used for the offsets and the x-coordinates are used for the positions.

30.10.2007: **modelling - load data traveltimes**: If any of the ASCII-formats has been used the timedimension in case of seismic wave propagation will be queried (ms or µs).

23.10. 2007: **2D-dataanalysis - export**: new option generate ASCII-report.

23.10.2007: **2D-dataanalysis - processing flow**: new option export to ASCII.

17.10.2007: **2D-dataanalysis** - new processing option **compensate stripes**: The processing step allows to compensate for stripes which occur within timeslices if different antenna with different characteristica have been used for the data acquisition.

06.10.2007: **2D-dataanalysis** - **processing** profiles with more than **32768 samples**: the following processing options did not work: bandpassfrequency, notchfilter/frequ., trace spectrum, 1.derivative and intergration - corrected now.

06.10.2007: **2D-dataanalysis - fk-filter**: max.number of traces and/or samples has been extended to 32768.

16.09.2007: **2D-dataanalysis-velocity adaptation of cores**: until now each change of the cores had been saved first in order to be taken into account for a subsequent 2D-plot view - now each change can be instantaneously viewed using the option 2D.

12.09.2007: **2D-dataanalysis-CMP stacking**: the **2D-velocity model** for the stacking can now also be loaded from a Reflexw rasterfile containing either layer velocities or mean velocities.

05.09.2007: **modelling - average layer**: when using the average the lower existing layer has been automatically eliminated - corrected.

04.09.2007: **2D-dataanalysis - sequence processing with correct picked phase**: a memory overflow (Access Violation error) could occur if the correct picked phase option has been used within the sequence

processing for a profile which number of traces is greater than 32000 - corrected now, also in ver. 4.2.

03.09.2007: **2D-dataanalysis** - processing option **gain function**: result has been integer - corrected now, also in ver. 4.2.

07.08.2007: **CMP-velocity analysis - semblance** and **unnorm.correlation**: until now the starttime given within the fileheader had always to be 0 - now any starttime is taken into account, also in ver. 4.2.

07.08.2007: **modelling - view traveltimelines** and **-points:** The data traveltimelines had been shown for the last shot even if view data traveltimelines had been deactivated - corrected now. In addition now you may distinguish between view data traveltimepoints and view calc. traveltimepoints.

07.08.2007: **3D-datainterpretation - open several 2D-files:** with the wiggle mode chosen you had to enter first the plotoptions in order to show the files - corrected now, also in ver. 4.2.

07.08.2007: **3D-datainterpretation - show 3D-cube:** now the manually chosen z-axis name within the plotoptions is directly connected to the chosen y-axis name of the scroll and windows mode (also in ver. 4.2).

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 serval 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 interprete 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 occured 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 lenghts (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 lead 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-datananalysis-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-dataanaysis - 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 filehehader 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 oven 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 rigth 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 SEGY-DOS which uses the DOS-format and not the Unix-format for the SEGY-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-dataanalyis - 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 preservers 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 parmeter 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 plopoption 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 plotoptions marker or comment markers are activated (also ver. 3.5).

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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.