

All the bugs listed below have already been corrected in the latest version of MOSSWINN.EXE available for download on the Home Page of MossWinn.

<b>Compilation date</b>	<b>Bugs corrected in the version with the given compilation date.</b>	<b>Further developments in the version compiled at the given date.</b>
<b>2000.07.08.</b>	Moving from a DLL subspectrum to the Background in the FIT menu, the Transmission Integral – Thin Absorber approximation popup box remained unavailable.	Not noted.
	HDO/RENAME PROJECT did not work properly: the renamed project got reloaded first, and any changes made to it in the last session were discarded.	Not noted.
<b>2000.07.16.</b>	Let us assume the following situation: Spectrum “A” is loaded and fitted, and the fit result is Accepted in the FIT menu. Then – outside MossWinn - Spectrum “A” is copied from its former place on the hard disk to a new place where its name will be Spectrum “B”. Then Spectrum “B” is loaded with MossWinn. When Spectrum “B” is fitted in MossWinn, then instead of Spectrum “B”, the identical Spectrum “A” was loaded and fitted in the FIT menu.	Not noted.
	The Full Monte Carlo StD-Estimation Procedure in the FIT menu was too slow because the internal precision was set to too high.	Not noted.
<b>2000.07.20.</b>	The Y axis title could not be changed, but it was always set to “Counts”.	Not noted.
<b>2000.07.25.</b>	Let us assume the following situation: Simultaneous fitting of several spectra has been activated in the FIT menu. On one of the Insight pages the dependence of parameter “A” is displayed. For one of the spectra a new model is loaded that does not contain any parameter with the name of “A”. In such a situation a run time error occurred.	Not noted.
	Let us assume the following situation: Simultaneous fitting of N spectra has been activated in the FIT menu. For all of the spectra a new model is selected, which model contains M subspectra. If N*M (the number of all subspectra) exceeded a critical value around 300 – the maximum number of data arrays in MossWinn -, then a run time error occurred.	Not noted.
<b>2000.08.07.</b>	In AMPLITUDE fitting mode, for subspectra of <sup>151</sup> EU QUADRUPOLE SPLITTING with PSEUDO-VOIGT line shape the area of the subspectrum was calculated as if Lorentzians were used instead of Pseudo Voigt functions. Therefore in such a situation the calculated percentage values were not correct.	Not noted.
<b>2000.08.21.</b>	When a distribution of a Blume-Tjon relaxation subspectrum was fitted, then the derived distribution data points were not correct in the sense that they did not reflect faithfully the relative occurrence of the corresponding different <sup>57</sup> Fe micro environments. At the same time the envelope of the distribution subspectrum was correct.	Not noted.

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<b>2000.08.31.</b>	In the FIT menu, when the <i>actually selected</i> Model Group was deleted, the displayed information on the last selected model group remained undefined. In the corrected version the model "GENERAL . CUSTOM" gets selected automatically in such a situation.	Hamiltonian routines have been added for the isotopes: <sup>57</sup> Fe, <sup>119</sup> Sn, <sup>151</sup> Eu
<b>2000.09.16.</b>	In the FIT menu when simultaneous fitting was done, and there was a shared subspectrum that took part only in one of the spectra (despite of the fact that it was marked as to be shared), then a runtime error occurred when an attempt was made to export the fit results as a Table.	Not noted.
<b>2000.10.21.</b>	Let assume the following situation. Spectrum A has been previously fitted to some model, and the fit has been accepted. Then, later on Spectrum A serves as a calibration spectrum, that is, we want to calibrate the velocity axis on the basis of the already fitted Spectrum A. In such a case, when a Calibration model got selected on the CALIBRATION page in the FIT menu, the fixed physical constants of the selected calibration model were not correct, but they were reloaded from the file of Spectrum A according to the earlier fit that was accepted for Spectrum A.	<p>1, Linear and Hamiltonian routines have been added for the following additional isotopes: <sup>121</sup>Sb, <sup>125</sup>Te, <sup>129</sup>I, and <sup>141</sup>Pr</p> <p>2, <b>COPY</b> box has been added to the TBL menu to facilitate the copy of tables directly into the clipboard of Windows.</p> <p>3, The backup files in the directory X:\MOSSWINN\WORK\ older than one month are not deleted directly anymore, but first they are temporary moved to the directory: X:\MOSSWINN\TRASH\ . MossWinn will prompt you when the files take up too much disk space there.</p> <p>4, For Hamiltonian models the Amplitude mode is not available anymore. Regardless of the setting of the Amplitude/Area box, the Amplitude parameter of a Hamiltonian subspectrum pattern denotes always the full area of the corresponding subspectrum.</p>
<b>2000.10.31.</b>	If the "Temperature [K]" parameter was denoted by a single character (e.g. "4") then this value would not appear in the headline of spectrum windows on the screen.	Not noted.
	Only the first 23 shared parameters could serve as the X or Y axis of the Insight Pages.	
<b>2000.11.20.</b>	The fitting of percentage supervised subspectra with more than one amplitude type parameter did not work properly.	<p>1, The "ART =&gt; Strip Data..." procedure has been improved for conversion spectra.</p> <p>2, Now one can select multiple special parameters in the Printer Setup Dialog.</p>
<b>2000.12.18.</b>	In the FIT menu when all the subspectra were removed from the current model, then a run time error occurred. This bug was present only in the versions compiled in the range 2000.12.17.-2000.12.18.	<p>1, For subspectra with more than one amplitude type parameter the way of percentage supervision has been changed. When such a subspectrum gets supervised by a percentage parameter, then all but the first amplitude type parameters are converted to RELATIVE AMPLITUDE Parameters. They absolute value can be calculated by multiplying their displayed relative value with the value of the first - not relative - amplitude type parameter.</p> <p>2, The functionality of the ARR box in the main menu has been extended. Click on the ARR box with the right mouse button to arrange the windows on the screen in ascending order of their associated TEMPERATURE, NAME, HEADLINE, or other special parameters.</p>

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<b>2001.01.11.</b>	When a subspectrum contained a RELATIVE AMPLITUDE parameter that was constrained to be HARD, then distribution fitting of the subspectrum in question was not possible correctly.	The loading of the models is now faster when the FIT menu is entered.
<b>2001.03.03.</b>	For the case of $^{129}\text{I}$ , and M1/E1 with $I_{\text{ground}} > I_{\text{excited}}$ <b>Single Crystal</b> Hamiltonian calculation was inaccurate. The lines were at the correct position but their relative amplitude could differ from the correct value with $\leq 4\%$ in units of the most intense line.  There was a bug in the ROTATION routine of SCANFIT.EXE, that could result in the appearance of duplicated parts of the original image in the rotated one.	1, In the FIT menu the RELATIVE relation can now be added to Amplitude type parameters even in the absence of percentage constraint.  2, The "SET => SET ASCII KEYBOARD LAYOUT..." option has been added to facilitate the customization of keyboard layout in the case of non-US keyboards.  3, Parameter names in the TBL menu are now completed with the name of the corresponding subspectrum.  4, The new SCANFIT.EXE program has been added to the MossWinn package. With the help of SCANFIT.EXE one can create ASCII spectrum data from bitmap images of Mössbauer spectra. The SCANFIT program can be started from the EXE menu of MossWinn.  5, Linear and Hamiltonian routines have been added for the Mössbauer isotope $^{237}\text{Np}$ .  6, MossWinn can fit now static Hamiltonians to Mössbauer spectra of any $I_e, I_g \leq 9/2$ M1/E1 Mössbauer transition. The nuclear parameters (e.g. g factor, quadrupole moment) can be fitted as well.
<b>2001.04.21.</b>	If the user defined a custom standard calibration absorber by selecting DEFINE ABSORBER on the Calibration TAB in the FIT menu, then calibration with this newly defined absorber model was not correct, because the isomer shift was not adjusted automatically according to the selected source matrix material. By the manual setting of the correct isomer shift value the problem could be cured.	1, In the FIT menu there is now the possibility to save multiple subspectra as a unit (SUBSPECTRUM GROUP). The saved subspectra can then be added to the actual model as a unit. Constrains defined between the subspectra are saved and reloaded as well.  2, In the FIT menu there is now the possibility to define an arbitrary function as constrain between parameters. The arbitrary function can be programmed and compiled as DLL to DEP_DLL1.DLL by the user.  See the chapters 27.3.1 and 27.16.4. in the latest version of the manual of MossWinn for further details.
<b>2001.05.28.</b>	In the TBL menu when X,Y[x] data were created with the Base Line parameter being selected, then in certain cases the program offered to divide the amplitudes by some extra parameter (e.g. Temperature) instead of the Base Line parameter.  For unrealistic values of the D(z,x) parameter ( $> 500$ or $< -500$ ) – in the case of the Goldanskii-Karyagin Effect – the calculations were either too slow, or occasionally the program could also crash.	1, MossWinn can fit now static Hamiltonians to Mössbauer spectra of any $I_e, I_g \leq 9/2$ E2 and M1+E2 Mössbauer transition. The nuclear parameters (e.g. g factor, quadrupole moment, amplitude and phase of E2/M1) can be fitted as well.  2, $^{197}\text{Au}$ and $^{161}\text{Dy}$ (25.655 keV) have been added to the list of built in Mössbauer isotopes.  3, Goldanskii-Karyagin Effect can now be handled for powder geometry for all handled Mössbauer isotopes.  4, The new line shape "LORENTZIAN WITH DISPERSION" has been added to the list of available line shapes. It accounts for an interference between the nuclear and atomic absorption of $\gamma$ rays.  5, Unless a more precise value is clearly available, the built in nuclear constants of MossWinn are now all taken from Stevens: MEDI (1975)

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<b>2001.07.08.</b>		<p>1, In the case of the Goldanskii-Karyagin Effect, for negative values of the <math>D(z,x)</math> parameter the calculations are now faster.</p> <p>2, The method that safeguards the current model in the FIT menu against the setting of invalid values of percentage parameters (e.g. when the sum of the values of percentage parameters exceeded 100) has been improved.</p>
<b>2001.09.16.</b>	The setting of the default page orientation via the SET menu did not work always properly.	The FAM menu has been replaced by the more versatile, and more customizable SFT menu.
<b>2002.02.08.</b>	<p>When series of spectra were fitted via the SFT menu, then in some cases the program ignored the setting of the “Do not perform Monte Carlo Error calculation” checkbox.</p> <p>In the FIT menu, in certain cases of simultaneous fitting of spectra, the percentage supervision did not work for shared subspectra that were not present in at least one of the simultaneously fitted spectra.</p> <p>For envelopes that outgrow considerably the measured data, when the envelope was not anymore displayable in the spectrum window, then occasionally a noise may have appeared in the spectrum window.</p> <p>In the case when an ASCII spectrum was created from a Bitmap image with the help of the ScanFit.exe program, then MossWinn could not load automatically the created ASCII spectrum file if the name of the latter file did not correspond to the DOS 8.3 naming conventions. (Download the latest ScanFit.exe to eliminate this bug.)</p>	<p>1, The “Recover original baseline” option has been added to the “ART” menu. The corresponding routine estimates and recovers the original baseline of a spectrum that was obtained by dividing all data with a constant factor (e.g. the baseline) in order to emphasize the magnitude of the Mössbauer effect.</p> <p>2, The “Shift velocity axis” option has been added to the “ART” menu. The corresponding routine can be used to modify the calibration of Mössbauer spectra by adding a certain (positive or negative) constant to the velocity value of each channel of the spectrum.</p> <p>3, In the FIT menu the calculation of the Blume-Tjon magnetic relaxation model is much faster now.</p> <p>4, The model of “Random EFG in uniaxial external magnetic field (Powder)” has been implemented for <math>^{57}\text{Fe}</math> as given by N.BLAES, H.FISCHER, U.GONSER: NIM B <b>9</b> (1985) 201.</p> <p>In the model a powdered sample, with randomly oriented EFG and <math>\eta = 0</math>, subjected to a uniaxial (external) magnetic field is assumed.</p>
<b>2002.02.13.</b>		<p>1, The model of “Tjon-Blume Jahn-Teller Quadrupole Relaxation (Powder)” has been added to the list of models available for <math>^{57}\text{Fe}</math> Mössbauer spectra. The relaxation model assumes an electric field gradient whose main component (<math>V_{zz}</math>), although fixed in magnitude, reorients dynamically and randomly between the <math>e_x</math>, <math>e_y</math> and <math>e_z</math> directions of the eigensystem of the EFG tensor. The hyperfine magnetic field and <math>\eta</math> are assumed to be zero.</p> <p>The implementation follows the work J.A. TJON, M. BLUME: PHYS. REV. <b>165</b> (1968) 456.</p>
<b>2002.03.12.</b>		<p>1, The “SET DEFAULT CALIBRATION OPTIONS” option has been added to the SET menu in the main menu. The new option enables the customization of the default <math>^{57}\text{Co}</math> source matrix material, the default calibration material, as well as the default isomer shift reference material. The default options are selected automatically when calibration of a pristine spectrum is performed in the FIT menu.</p>

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<b>2002.09.08.</b>	<p>In the case of transmission integral fitting, when only a single subspectrum with a single amplitude type parameter was fitted, then when this amplitude parameter was set to zero then a Run Time Error occurred.</p> <p>When spectra were copied into the clipboard of Windows, and when the default image resolution was set to be above 1200 x 800 pixels, then the spectrum image copied into the clipboard sometimes appeared clipped.</p>	<p>1, The executable Dos2Clip.exe has been improved.</p>
<b>2004.10.20.</b>	<p>On some of the high resolution printers the printed spectrum image did not fill the whole A4 page, but maximum only 3/4 of it.</p>	<p>1, In the menu PRN =&gt; Print / Copy / Set Defaults... the size of the printed image can now be set to values up to 5000x5000 (in pixels) which enables one to make the image to fill the whole A4 page.</p> <p>2, The default size of the single-spectrum-image copied to the clipboard when ctrl-c is pressed can now be set independent of the size of the printed image. Setting can be done by adding (editing) the following two lines in the file /mosswinn/mosswinn.cfg:</p> <p>Horizontal single spectrum clipboard size (400..1550): 1200 Vertical single spectrum clipboard size (200..1200): 800</p> <p>3, MossWinn can now be instructed to automatically extract calibration information (i.e. calibration factor and zero velocity channel) from data files with special format. See Page 14 of the latest version of the MossWinn manual for further details.</p>
<b>2004.10.23.</b>		<p>MossWinn can now be instructed to work with copies of original special format data files (i.e. files whose format matches one of the file format definitions in the file \mosswinn\work\specfrmt.cfg) instead of the originals.</p> <p>The feature can be set in the SET menu via</p> <p>SET =&gt; Set autosave options =&gt; On auto-copy original...</p> <p>The feature is set if the menu displays "(ENABLED)".</p> <p>If the feature is set, then whenever an attempt is made to load (in the Load menu) an original special format data file (i.e. a data file that has one of the special formats defined in SPECFRMT.CFG and that was not loaded with MossWinn earlier), then a copy of the original will be created (with changed extension) and it will be the copy that gets loaded. In that way the format of the original data file remains preserved.</p> <p>The settings concerning this feature are stored in \mosswinn\mosswinn.cfg via:</p> <p>Prevent MossWinn to change the format of original data files: YES Copies of original data files if created should have an extension of: MOS</p>
<b>2005.04.06.</b>	<p>When in the main menu a spectrum was printed to printer via the spectrum's headline menu, then regardless of the spectrum window whose headline menu was invoked, it was always the spectrum in the red framed window that was printed.</p>	

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2006.08.15.	The "ART => RECOVER ORIGINAL BASELINE" procedure could provide poor estimations of the baseline when the spectrum contained many fixed (zero valued) channels.	The <b>RECOVER ORIGINAL BASELINE (IN CASE OF OVERFLOWS)</b> procedure was added to the ART menu. This procedure estimates the original baseline of spectra from which a constant was subtracted, e.g. during overflows.
2007.02.01.		<p>The fundamental physical constants used in MossWinn have been updated to their latest value as published by</p> <p><a href="http://physics.nist.gov/cuu/Constants">http://physics.nist.gov/cuu/Constants</a></p> <p>The following changes were made:</p> <p><b><u>Nuclear magneton</u></b>            Old value: <math>5.04929 \times 10^{-27}</math> J/T            New value: <b><math>5.05078343 \times 10^{-27}</math> J/T</b></p> <p><b><u>Planck constant over 2 pi</u></b>            Old value: <math>1.05459 \times 10^{-34}</math> Js            New value: <b><math>1.05457168 \times 10^{-34}</math> Js</b></p> <p><b><u>Elementary charge</u></b>            Old value: <math>1.6021917 \times 10^{-19}</math> C            New value: <b><math>1.60217653 \times 10^{-19}</math> C</b></p> <p><b><u>Boltzmann constant</u></b>            Old value: <math>1.38054 \times 10^{-23}</math> J/K            New value: <b><math>1.3806505 \times 10^{-23}</math> J/K</b></p> <p><b><u>Speed of light in vacuum</u></b>            Old value: <math>2.997924562 \times 10^8</math> m/s            New value: <b><math>2.99792458 \times 10^8</math> m/s</b></p>
2007.07.18	‘PRINT TABLE’ in the TBL menu tried to print to the parallel port even if printing jobs were directed to the Windows default printer.	<p><i>The further development of the earlier version of MossWinn 3.0i (mw9598Me.exe) has been ended. From this date on new developments are included only in MossWinn 3.0i xp which is therefore the recommended version for DOS, as well as for MS Windows 95, 98, Me, 2000 and XP operating systems.</i></p> <p>‘PRINT TABLE’ in the TBL menu is now able to print to the Windows default printer (this feature needs the latest DOS2CLIP.EXE).</p> <p>The new option <b>SHOW PERCENTAGE VALUES</b> was added to the PLT menu. Selecting this option makes the Y axis of the red window displaying percentage values instead of absolute count values. 100% corresponds to the maximum of the measured spectrum.</p> <p><b>Some clipboard routines were improved:</b>            When the Y axis of spectra are displayed with suffix notation (e.g. 720K instead of 720000), then ctrl+c and ctrl+shift+c will put a corresponding bitmap image into the clipboard of Windows in which the Y axis displays scientific notation of numbers: for a number of 720K, for example, the coefficient 7.2 will be displayed beside the axis tick, and the exponent will be emphasized after the Y axis title as / <math>10^5</math>.</p> <p>When all spectra on the screen are copied into the clipboard of Windows by ctrl+shift+c, then the image size of 1550 pixel × 1200 pixel is used now by default.</p> <p>If the red spectrum or all spectra are copied into the clipboard of Windows in the menu PRN =&gt; PRINT / COPY / SET DEFAULTS... , then the resulting bitmap image will now reflect the image size set in that menu. In the case of a single spectrum the maximum image size that can be set in this way is 1550 pixels × 1200 pixels, while in the case of multiple spectra it is 2500 pixels × 2500 pixels. Resolutions higher than 1550 × 1200 are handled correctly only by the latest <b>DOS2CLIP.EXE</b>.</p>



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2007.08.22.	When displaying distributions MossWinn in some cases may have allocated a too wide margin for the Y axis numbers.	
2008.01.25.	When a spectrum without X-axis caption was copied into the clipboard (e.g. by pressing ctrl-c), the X-axis numbers were not fully displayed on the graph.	
2008.11.21.	In the FIT menu the global search procedure (initiated via the 'Global' box) did not always obey the preset parameter boundaries, and may have considered solutions for which the value of one or more position type parameters (typically the hyperfine magnetic field) lied outside the corresponding preset parameter boundaries.	
2009.02.06	<p>When in the FIT menu for a single spectrum the number of fit parameters + the number of subspectra exceeded 128, a run time error occurred.</p> <p>When in the FIT menu the number of parameters shown as the potential basis of a cross-reference function inside the 'Relation' popup exceeded ~ 33, then the 'More parameters...' option may have remained unavailable.</p>	<p>Further improvements have been applied to printing and clipboard functions.</p> <p>One can now define the default size of images of multiple spectra copied into the clipboard of Windows by adding the following lines to /mosswinn/mosswinn.cfg: Horizontal multiple spectrum clipboard size (800..2500): 2000 Vertical multiple spectrum clipboard size (400..2500): 1500</p> <p>The default printing orientation has been changed to 'LANDSCAPE'.</p> <p>When spectra are copied into the clipboard of Windows, then the following default LANDSCAPE-orientation options are now taken into account: <i>Show Caption, X Axis Decimals, Y Axis Decimals, Font Size, Print in Color, Point Size, Show Value of (the selected special parameters)</i>.</p> <p>On the Printer Setup Dialog form (PRN → PRINT / COPY / SET DEFAULTS...) there are now check boxes before the Y label (YL) and X label (XL) edit boxes. The X- and Y-axis labels are now applied when the corresponding check box is checked.</p> <p>One can now assign several different functions to the left mouse click on the Print box in the FIT menu. These functions can be selected in the 'Set' menu inside the FIT menu.</p> <p>A new Windows program named SETPRINT.EXE was added to the program group of MossWinn. SETPRINT.EXE should be saved in the same directory where MOSSWINN.EXE is located. It can be used to set the optimal image width and height values in MossWinn for the currently default Windows printer. If running, MossWinn should be exited before SETPRINT.EXE is executed: restart MossWinn after the current settings have already been modified by SETPRINT.EXE.</p>
2010.03.27.	When the "Blume-Tjon Two State Magnetic Relaxation (Powder)" is selected as model for a subspectrum in the FIT menu, the "Jump up rate" and "Jump down rate" relaxation rates are constrained to be equal by default. When this constraint was lifted, and the "Jump up rate" and "Jump down rate" relaxation rates were set to be different, then the corresponding calculated subspectrum curve was not correct, the main problem being that though there were peaks at the correct positions, their amplitudes were diminished compared to the correct case.	