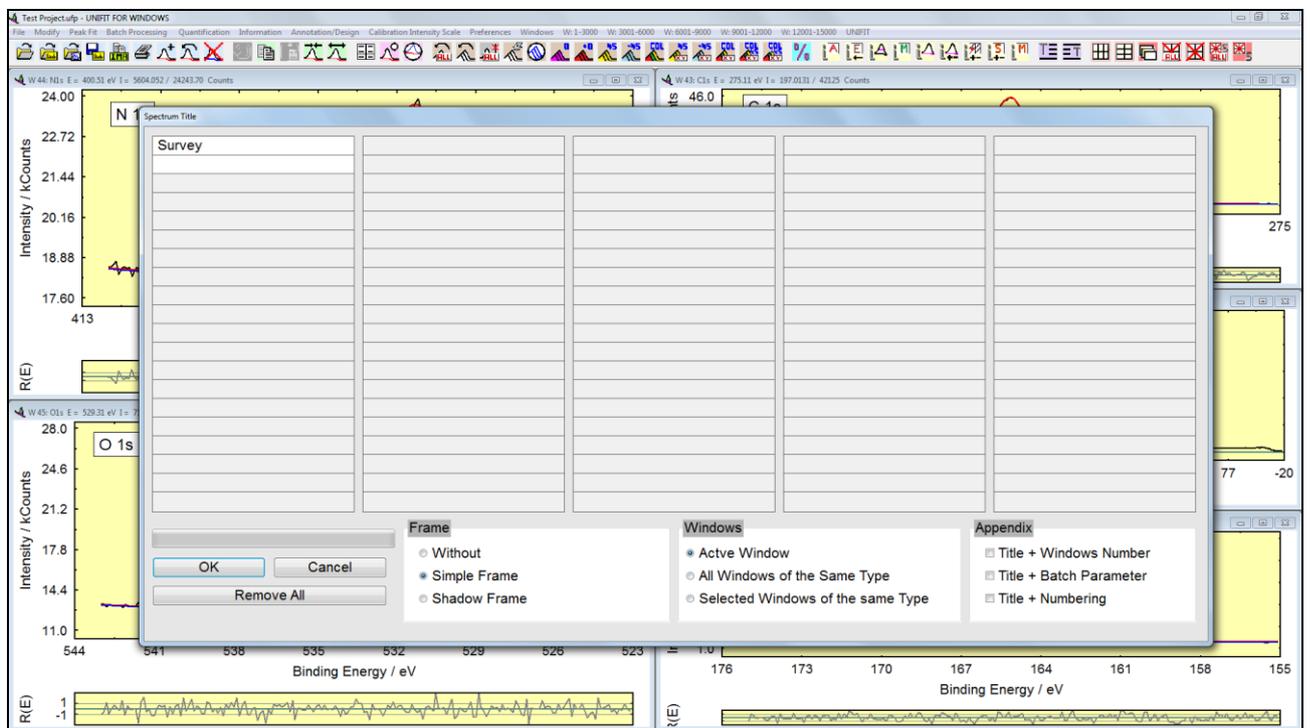# What is new in UNIFIT 2021?

Main focus of the advancement to the **version 2021** was in the improvement of the optimal handling of the UNIFIT software. The functionality of the right mouse button was extended with peak-fit functions and additional design commands. The sub-programme for the generation of marker lines was refreshed. In order to avoid incorrect programme sequences the tool bar activation and deactivation procedures were optimized.

i) The sub-programme for the generation of marker lines was over-worked. The automatic rescaling of the marker lines with respect of the windows size was improved. The scaling of the printing-out of UNIFIT windows presentations including marker lines was corrected. Integrated marker lines of former UNIFIT projects are loaded correctly.

ii) The dialogue-application option 'Selected Windows' was implemented additionally into the following sub-routines:

1. 'Preferences – Axes/Lines/Text Display'.
2. 'Preferences – Axes/Lines/Text Printer'
3. 'Preferences - Graphs Standard Windows/Wagner Plot Display'
4. 'Preferences - Graphs Standard Windows/Wagner Plot Printer'
5. 'Preferences – 3D Plot Waterfall/XY 3D Plot/Color Profile Display'
6. 'Preferences – 3D Plot Waterfall/XY 3D Plot/Color Profile Printer'
7. 'Preferences – 3D Plot Waterfall 0° Plus Display'
8. 'Preferences – 3D Plot Waterfall 0° Plus Printer'
9. 'Preferences – Parameter Plot Display'
10. 'Preferences – Parameter Plot Printer'
11. 'Annotation/Design – Load Annotation/Design…'
12. 'File – Print…'
13. 'Annotation/Design - Spectrum Title 1'
14. 'Annotation/Design - Spectrum Labelling 1'

iii) The dialogues 'Annotation/Design – Spectrum Title 1' (see Fig 1) and 'Annotation/Design – Spectrum Labelling 1' (Fig. 2) were new designed and the functionality was extended.

iv) In order to prevent programme errors by a double quick (double activation) of special software routines, the controlling of the icons of the toolbar was revised. The toolbar will be completely deactivated in case of:

1. Loading of projects.
2. Saving of projects.
3. Loading pf project-processing steps.

4. Saving of project processing-steps.

5. Batch processing.

6. Calculation of the fit-parameter uncertainties.

7. Image export

8. Valence-band calculation

9. Fermi-edge estimation

10. Iteration during the peak fit

11. If a progress bar is displayed.

12. Estimation of the transmission function IERF

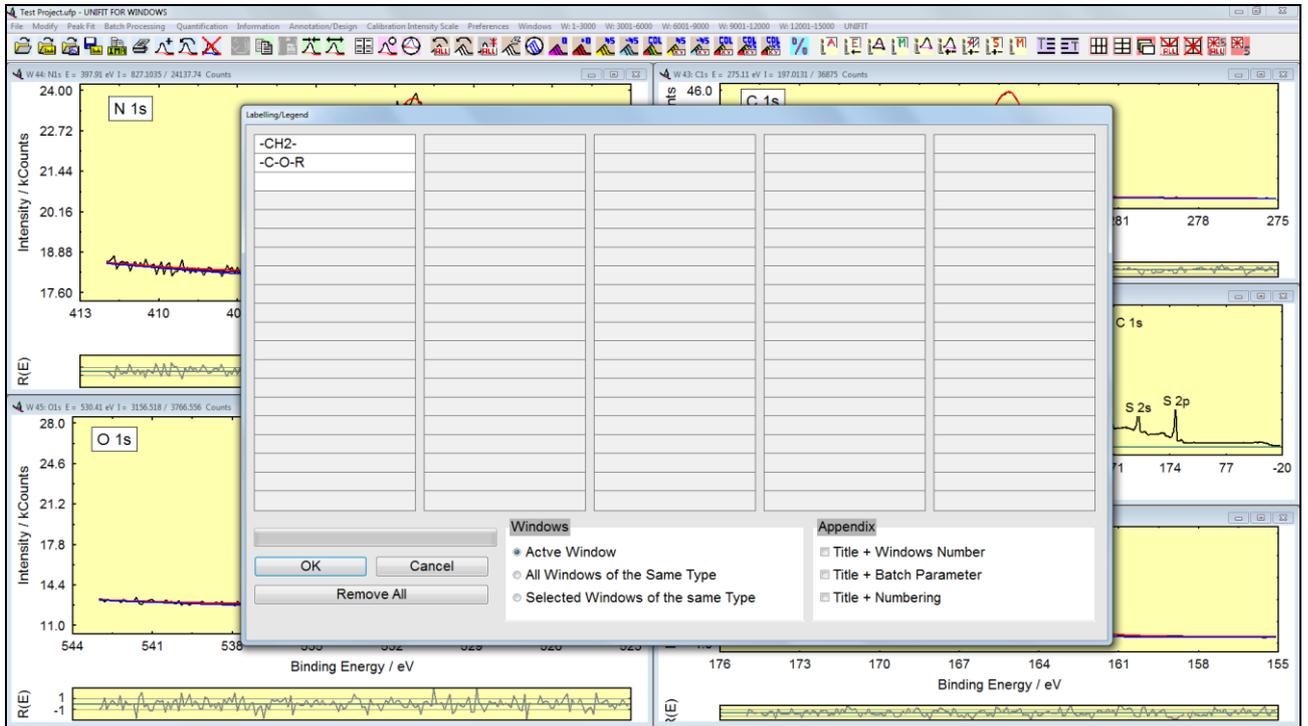If the special routine is finished, the toolbar will be reactivated.

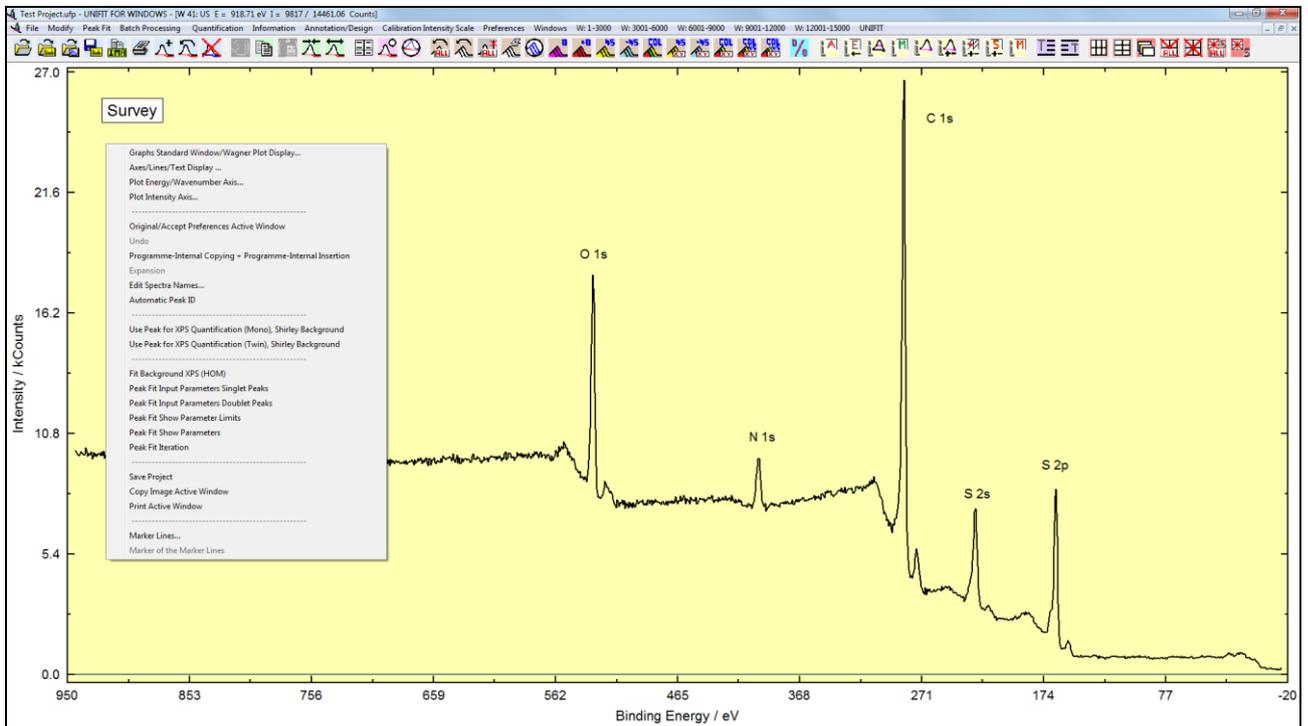**v)**   The edit fields of the dialogue 'Select Windows' were enlarged.

Fig. 1.   Dialogue 'Annotation/Design – Spectrum Title1'

vi)   The rescaling of image windows after a windows arrangement operation can be deactivated separately.

vii)   The annotation of the pull-down menu of the direct windows activation were improved. The names of the pull-down menu of the 3D- and parameter-plot windows get an extension with the displayed processing parameters (Old: Parameter Plot, New: Parameter Plot Intensity).

viii)   The parameter plot was improved. The 'Plot of Fit Parameters' was extended to 'Plot of Fit Parameters/Min/Max/Area'. Five new options for the plot are available:

1. Background free Area,

2. Maximum,

3. Minimum,

4. Position of the Maximum,

5. Position of the Minimum.

Fig. 2. Dialogue 'Annotation/Design – Spectrum Labelling1'

Fig. 3. Example of the activated popup menu (right mouse button) of a standard window without defined reduction-marker lines

ix) The functionality of the popup menu using the right mouse button (Fig. 3) was extended by:

A: Standard Windows:

1. Fit Background
2. Peak Fit Input Parameter Singlet Peaks
3. Peak Fit Input Parameter Doublet Peaks
4. Peak Fit Show Parameter Limits
5. Peak Fit Show Parameters
6. Peak Fit Iteration
7. Marker Lines
8. Marker of the Marker Lines

B: 3D-Windows, Color Plot Windows:

1. Marker Lines
2. Marker of the Marker Lines
3. Reverse Plot Parameter Axis (Parameter Axis, y-Axis)

C: 3D 0 Degree Windows:

1. Marker Lines
2. Marker of the Marker Lines
3. Reverse Plot Parameter Axis (Parameter Axis, y-Axis)
4. Line of the Maxima.

x) The printing out routine was improved. The following modification are implemented:

1. The new designed dialogue 'Pre-setting Printer' offers the following print options:

   - Window plus Acquisition Parameters
   - Wagner Plot Window plus Auger Parameter Data
   - Window plus Fit Parameters
   - Window plus Quantification Table
   - Two Windows on One Page

2. Print Active Window.
3. Print All (displayed) Windows.
4. Print (selected) Windows.