What is New in UNIFIT 2006: from the Measured Spectrum to the High Quality Presentation Using the Spectrum Processing, Analysis, and Presentation Software for Core Level Photoelectron Spectra

The new version 2006 of the spectrum processing and analysis software for core level photoelectron spectra extends the ability of graphical presentation and improves the quality of the exported and printed out graphics.

Now it is possible to create eight different presentations and transfer using the new high resolution BMP-export routine: (i) measured spectrum (Fig. 1), (ii) fitted spectrum with residuum (Fig. 2), (iii) transmission function, (iv), Wagner plot (Fig. 3), (v) 3D-waterfall 0° (Fig. 4), (vi) 3D-waterfall 45, (vii) 3D-waterfall -45° (Fig. 5), (viii) 3D-colour profile (Fig. 6).

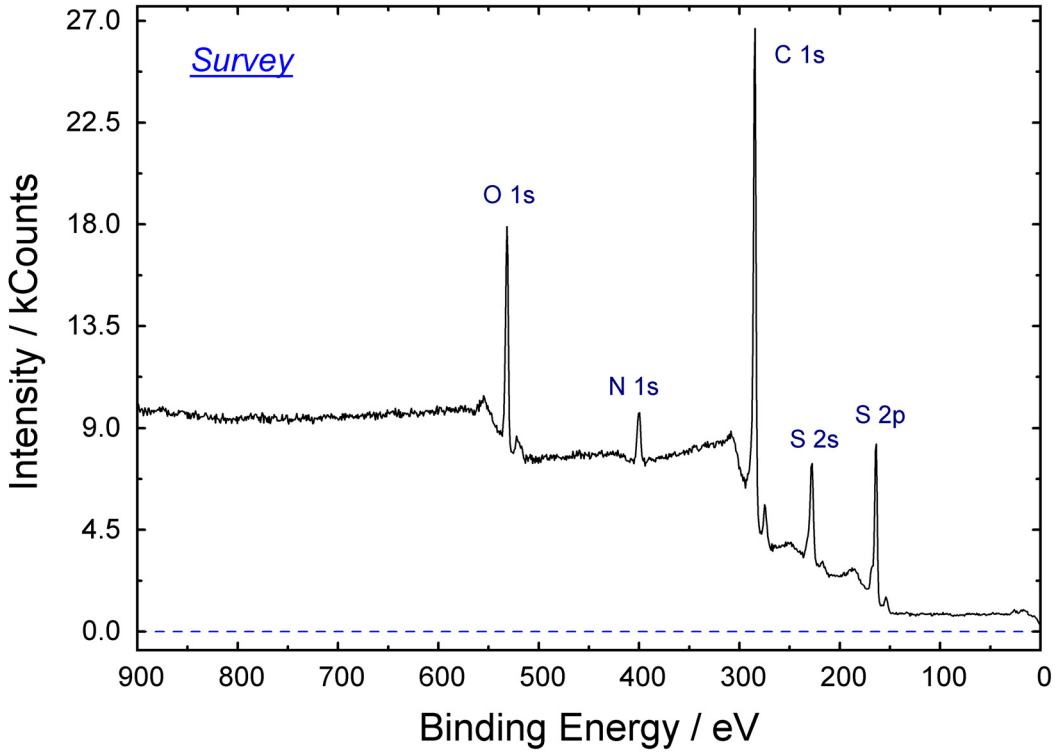

Fig. 1. Survey spectrum of a sulphur study created using UNIFIT 2006 and inserted in this document.

A new special sub-menu realizes the variation of colour, style, and thickness of all presented curves, axes, and lines (see Fig. 7 and 8).

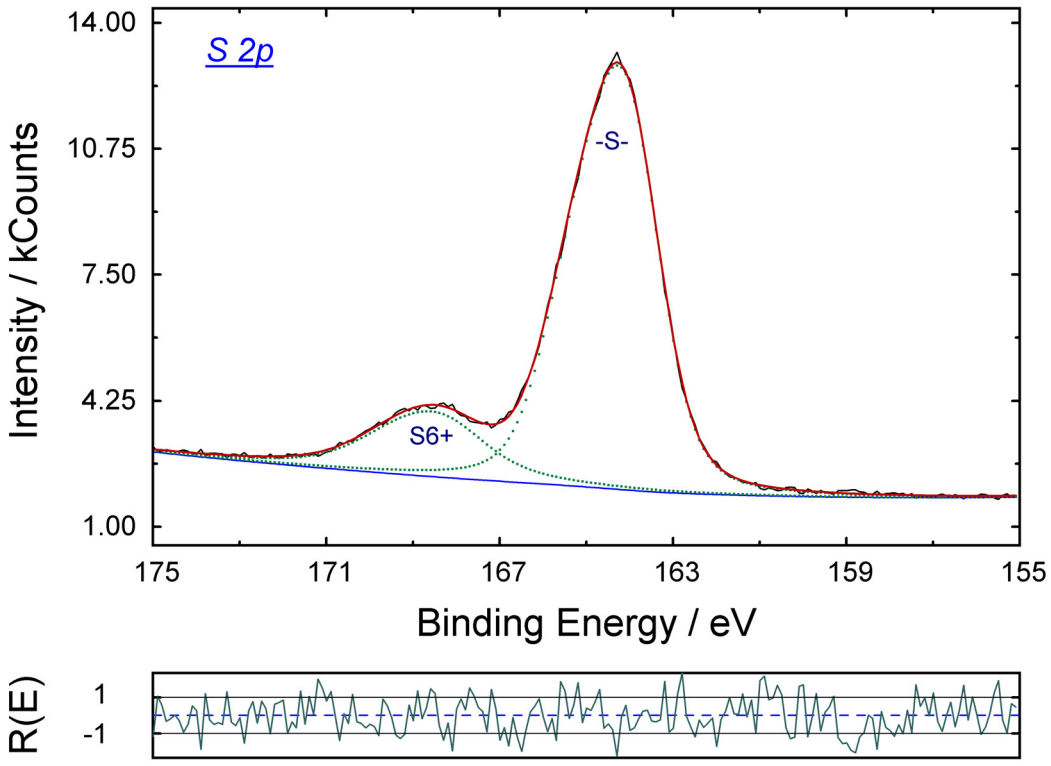

Fig. 2. S 2p spectrum of a sulphur study created using UNIFIT 2006 and inserted in this document. Peak fit: two doublets, convolution, background adapted during the peak fit

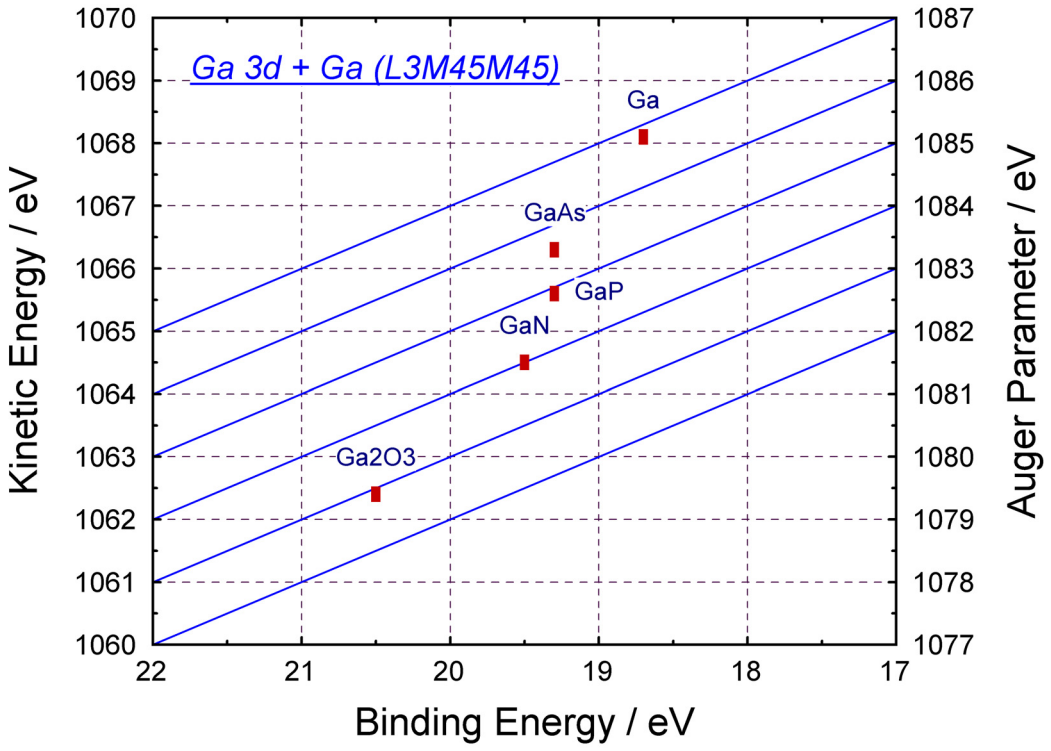

Fig. 3. Wagner plot of Ga 3d + Ga LMM created using UNIFIT 2006 and inserted in this document

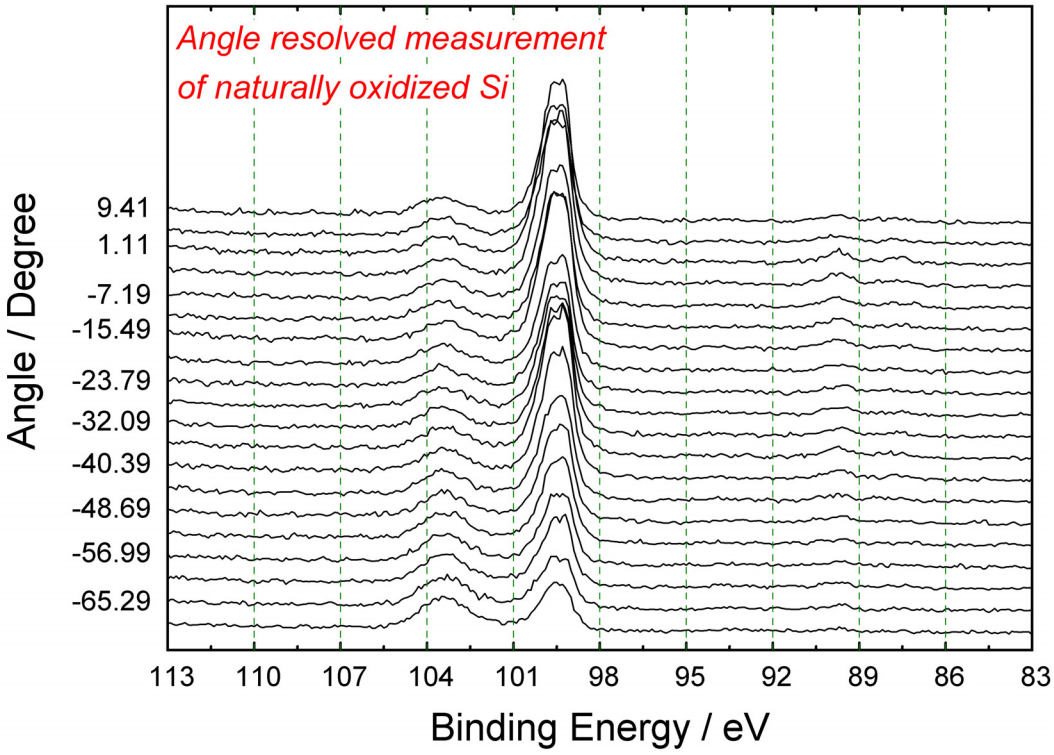

Fig. 4. 3D-Waterfall 0° plot of an angle resolved measurement of naturally oxidized Si wafer measured on the ESCALAB 220i XL. The graphic was created using UNIFIT 2006 and inserted in this document

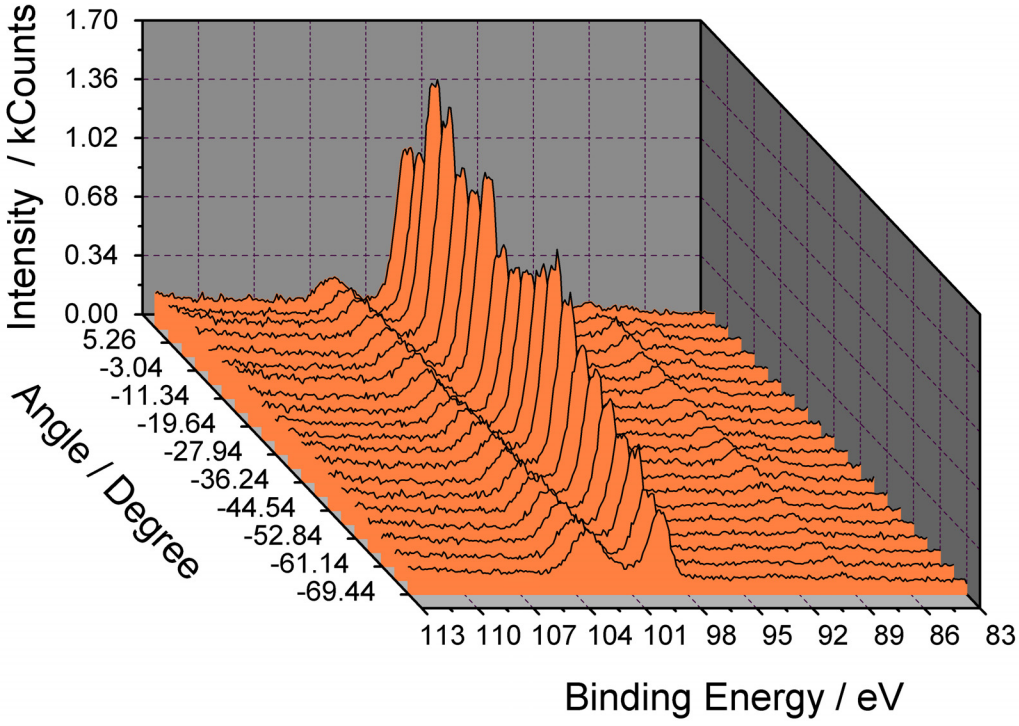

Fig. 5. 3D-Waterfall -45° plot of an angle resolved measurement of naturally oxidized Si wafer measured on the ESCALAB 220i XL. The graphic was created using UNIFIT 2006 and inserted in this document

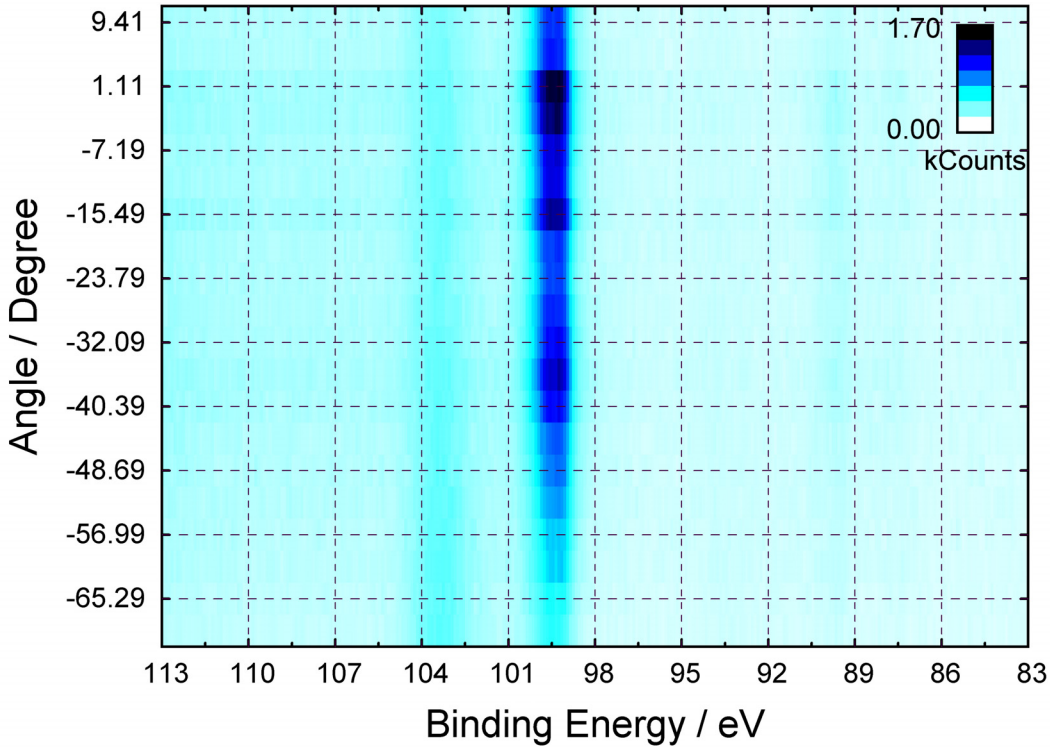

Fig. 6. Colour profile plot of an angle resolved measurement of naturally oxidized Si wafer measured on the ESCALAB 220i XL. The graphic was created using UNIFIT 2006 and inserted in this document

The user may select additional options to create the axis labelling, the annotation of the ticks, the spectrum labelling and the spectrum title. In addition, the user can choose position and length of ticks from three different recommendations. The ticks on the top and right axis are optional.

In the new version the manual controlling of the span of energy, intensity and parameter axis as well as the number of ticks has been integrated. The controlling of the y-axis shows Fig. 9. Optional grid lines for all axes may be plotted. The scale line annotations of the y-axis and z-axis can be switched off. The setting of the activated window can be transferred to all other opened windows with the same acquisition parameters.

All created presentations in all open windows may be stored together as one project to archive the received results.

In order to realize a real 'What You See Is What You Get'-window export with an appropriate resolution (the monitor setting is in current cases about 1024x768) the chosen window will expand four times in a special background procedure before the export file is stored. So the exported picture has a four times higher resolution as the monitor setting and a printing out of this picture with a size of 7x7 inch results in a print resolution of about 580 dpi.

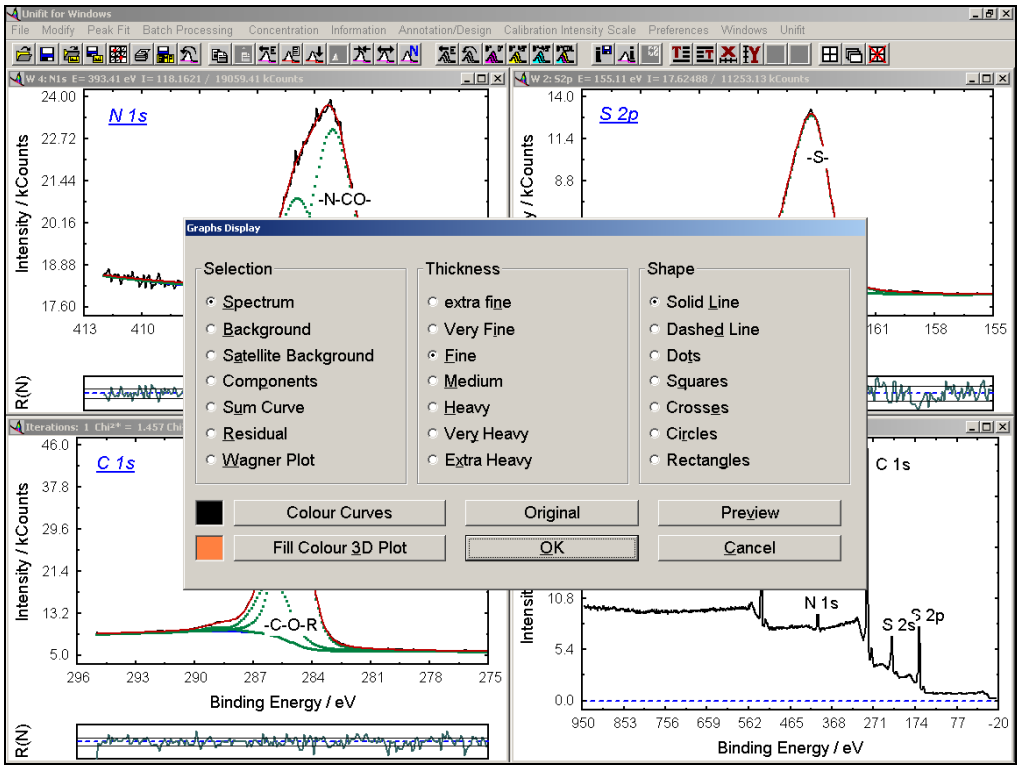

Fig 7. Dialog for setting the shape, thickness and colour of all curves displayed on the screen, setting of the fill colour of the 3D-plots

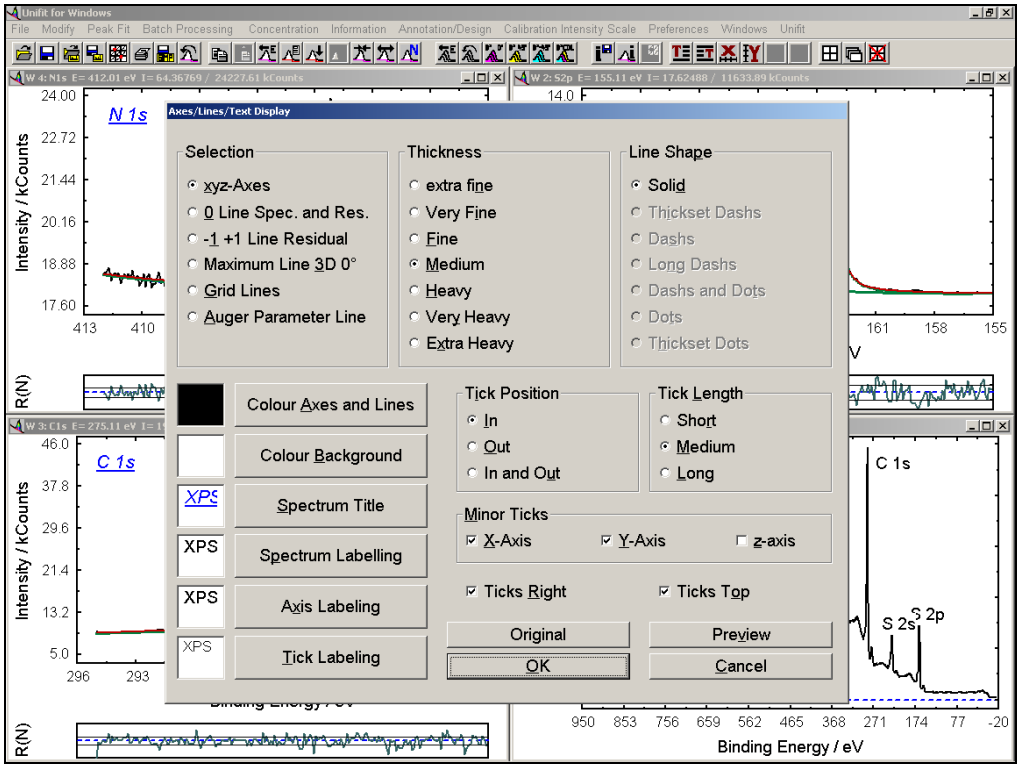

Fig. 8. Dialog for setting the shape, thickness and colour of all displayed axes, lines and characters

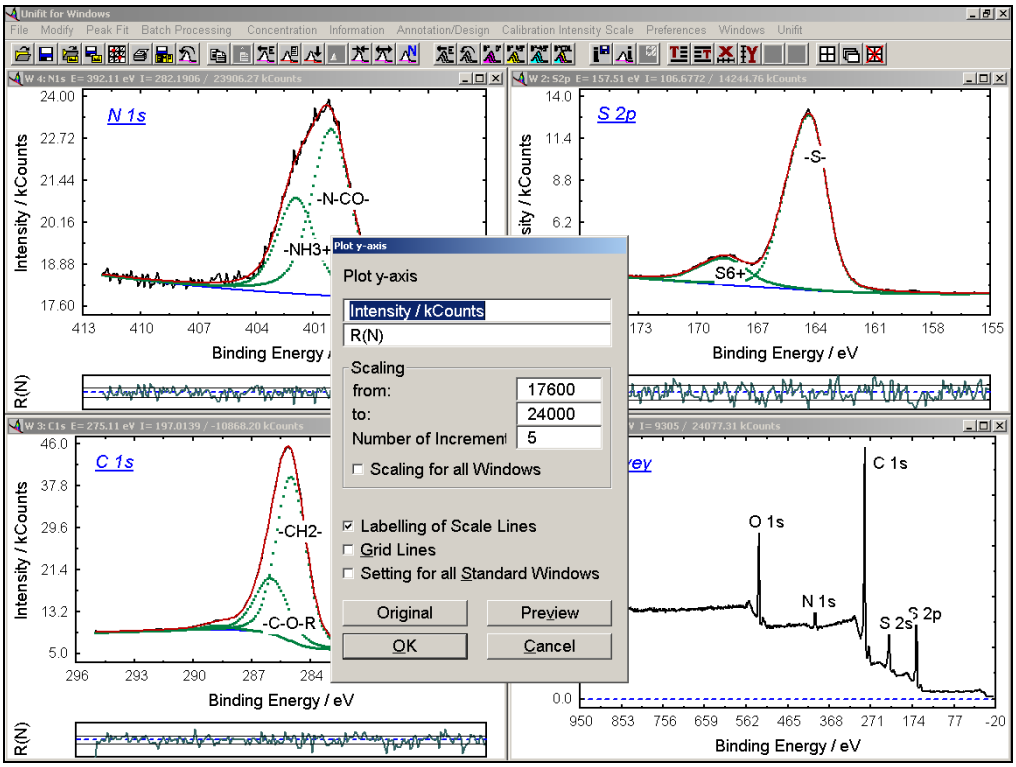

Fig. 9. Dialog for setting the scaling of the y-axis

In addition to the new extensive design modifications a new ‘Normalization submenu’ was installed. Now, the spectra can be normalized of the maximum, minimum, I(E) and a fixed value.

Note: In order to use the BMP-export routine of UNIFIT 2006 the monitor setting has to be ‘True Colour’.