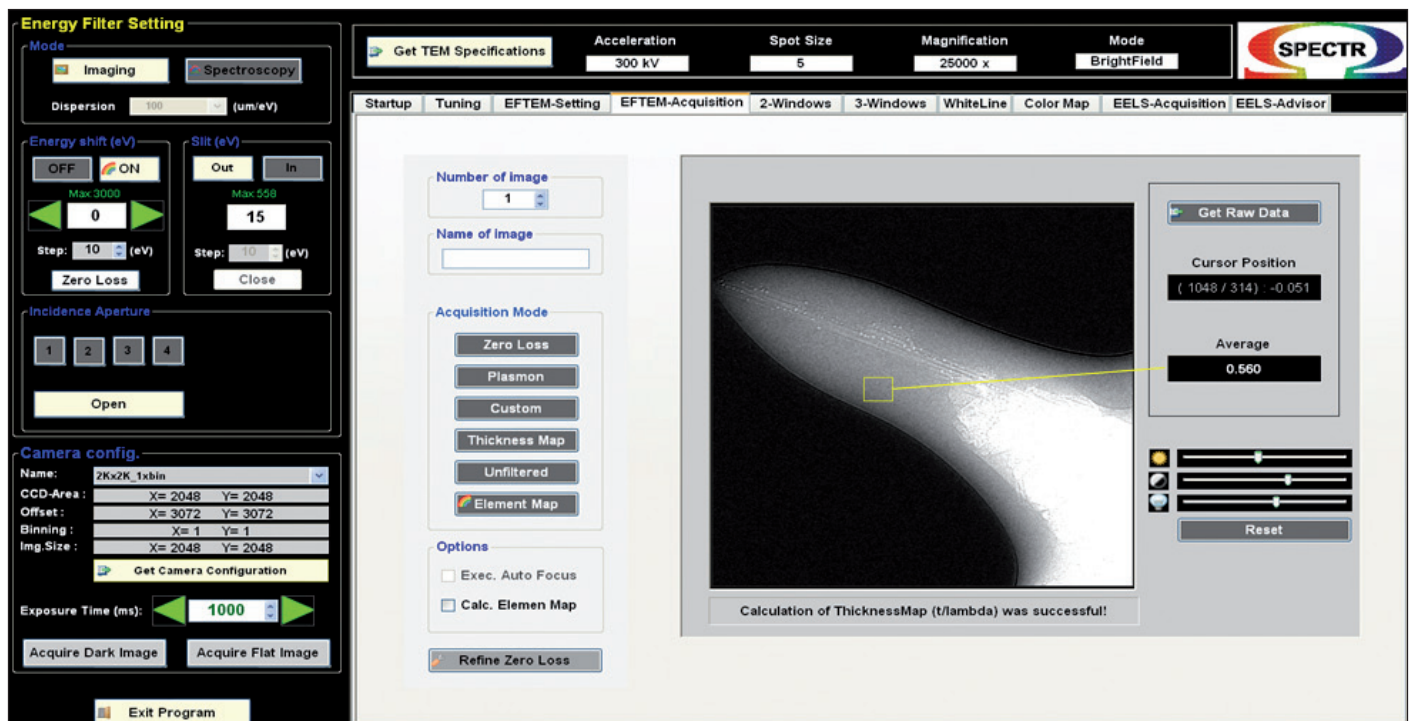


EM-SPECTRΩ

Automated data acquisition and data analysis software for Energy-filtered TEM

EM-SPECTRΩ has been developed for Transmission Electron Microscopes (TEM) equipped with an in-column energy filter. This software module facilitates acquisition and processing of energy-filtered image series (EFTEM) and electron energy loss spectra (EELS). The user friendly interface of EM-SPECTRΩ enables an intuitive and comfortable operation in both imaging and spectroscopy mode.



Graphical user interface of EM-SPECTRΩ: The left panel includes hardware remote control modules, e.g. allowing full access of in-column energy filter. The center part comprises of data acquisition and data processing components in the field of energy filtering technique. Its Multi-Tab design enables intuitive handling for users in both materials science and life sciences.

Features

Automated acquisition and advanced data analysis of:

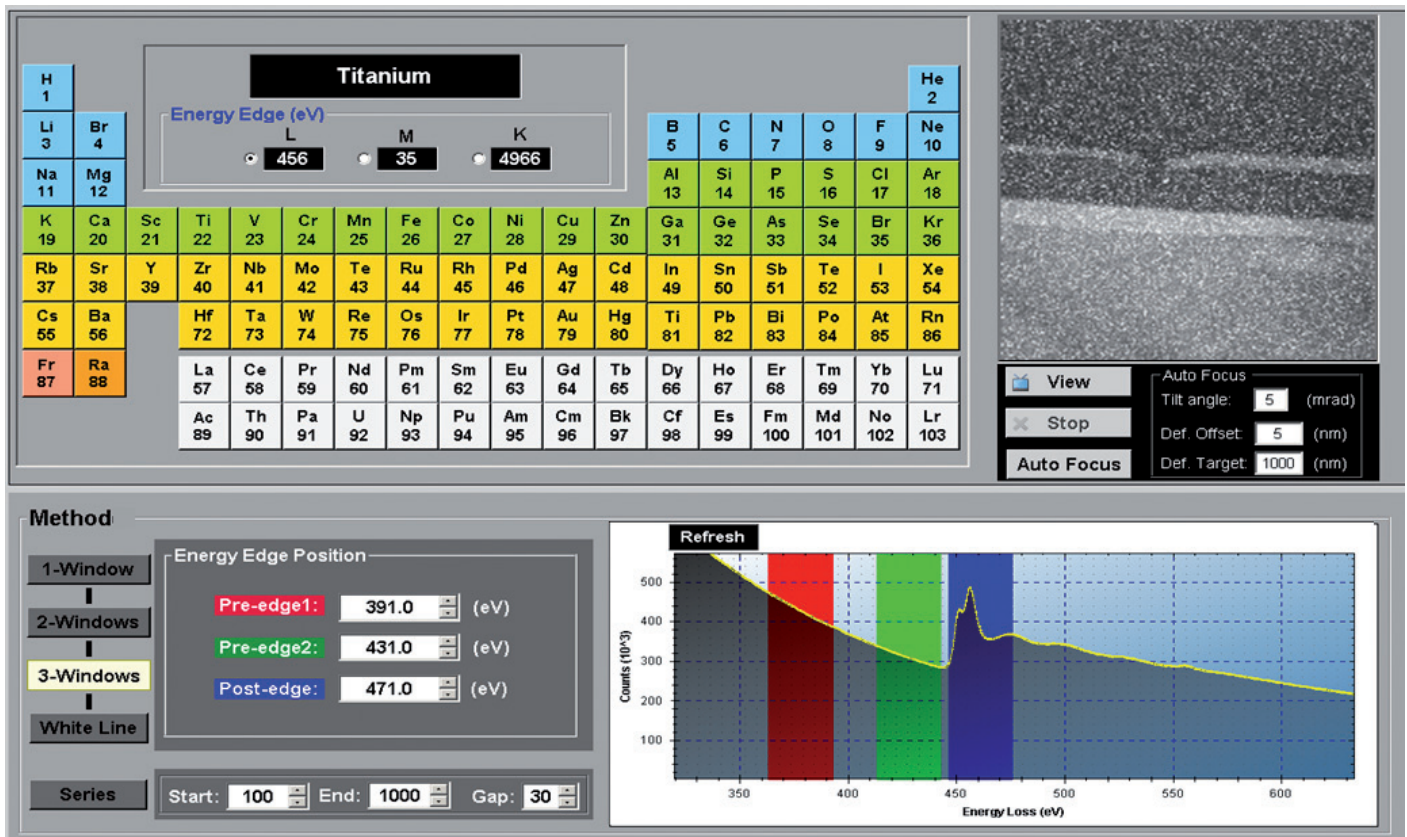
EFTEM-Imaging

- Zero-loss
- Plasmon
- Element mapping including:
 - 2-Windows method, 3-Windows method, White-Line method
- Energy-filtered image series
- Thickness mapping
- Color mapping

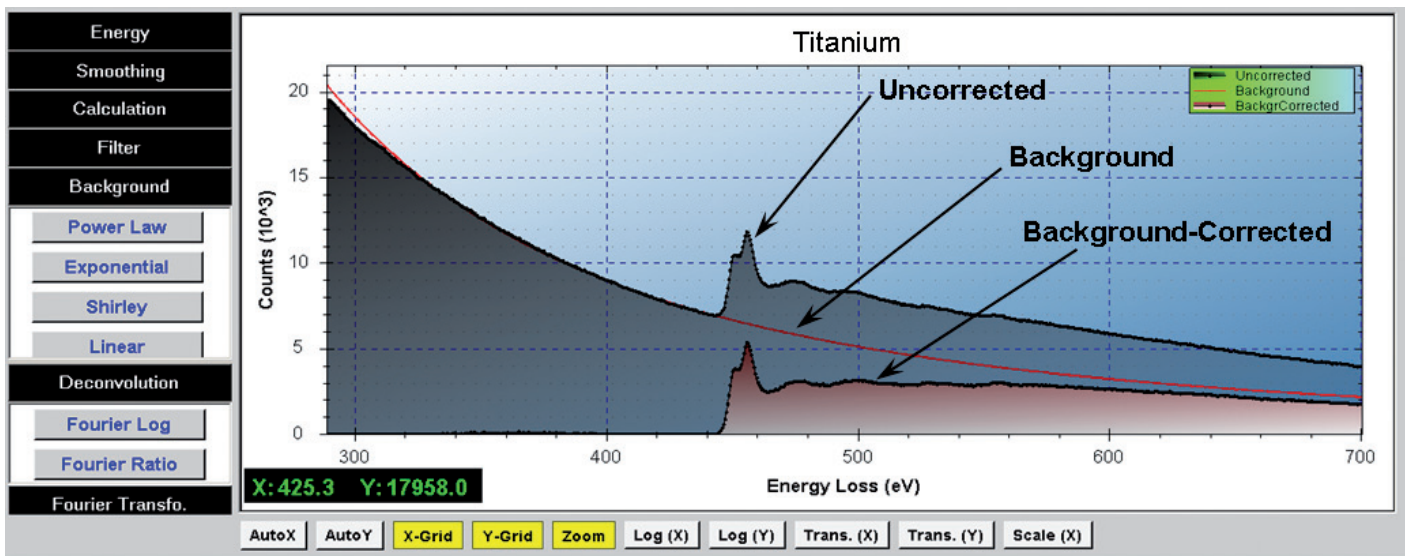
EELS-Spectra

Advanced data processing module including tools for spectra analysis:

- Fourier filtering (low-pass and high-pass)
- Fourier deconvolutions (ratio, log)
- Different background models (Power law, Shirley, Exponential, Linear)
- Derivation, integration, smoothing, mathematical fitting etc.
- Fourier transformation



Graphical user interface of the EFTEM-Setting tab in EM-SPECTRΩ: An EELS-Atlas provides reference spectra of almost all elements of the periodic table. One click in the Method-Box will guide the user through a set of routines of various EFTEM methods.



Graphical user interface of the EELS module in EM-SPECTRΩ: The left panel comprises of an advanced data processing module including tools for spectra analysis such as Fourier deconvolution.

Please visit www.tvips.com for further information, application examples and links to 3-D microscopy homepages.

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