



Energy-filtering transmission electron microscopy /

Reimer, Ludwig (1928-)

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Monografía

Energy-Filtering Transmission Electron Microscopy (EFTEM) presents a summary of the electron optics, the electron-specimen interactions, and the operation and contrast modes of this new field of analytical electron microscopy. The electron optics of filter lenses and the progress in the correction of aberrations are discussed in detail. An evaluation of our present knowledge of plasmon losses and inner-shell ionisations is of increasing interest for a quantitative application of EFTEM in materials and life sciences. This can be realized not only by filtering the elastically scattered electrons but mainly by imaging and analyzing with inelastically scattered electrons at different energy losses up to 2000 eV. The strength of EFTEM is the combination of the modes of electron energy-loss spectroscopy (EELS), Electron Spectroscopic Imaging (ESI) and Diffraction (ESD) and of energy filtering Reflection Electron Microscopy (REM) in one instrument

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