



2007, XIV, 336 p.

Printed book

Hardcover

89,99 € | £79.99 | \$109.99

^[1]96,29 € (D) | 98,99 € (A) | CHF

99,00

Softcover

79,42 € | £64.99 | \$99.99

^[1]84,98 € (D) | 87,36 € (A) | CHF

87,50

eBook

67,82 € | £51.99 | \$79.99

^[2]67,82 € (D) | 67,82 € (A) | CHF

75,00

Available from your library or
springer.com/shop

MyCopy ^[3]

Printed eBook for just

€ | \$ 24.99

springer.com/mycopy

Terry L. Alford, L.C. Feldman, James W. Mayer

Fundamentals of Nanoscale Film Analysis

- **Comprehensively treats the major characterization techniques used to analyze thin films from the micro- to nanoscale**
- **Incorporates the use of x-ray fluorescence (XRF) in thin film analysis**
- **Focuses on surface analysis and includes analytical techniques such as XRF, XRD, and electron microscopy**
- **Offers a modern version (with a nano focus) on the well regarded 1986 book, "Surface and Thin Film Analysis" written by Feldman and Mayer**

Modern science and technology, from materials science to integrated circuit development, is directed toward the nanoscale. From thin films to field effect transistors, the emphasis is on reducing dimensions from the micro to the nanoscale. Fundamentals of Nanoscale Film Analysis concentrates on analysis of the structure and composition of the surface and the outer few tens to hundred nanometers in depth. It describes characterization techniques to quantify the structure, composition and depth distribution of materials with the use of energetic particles and photons. The book describes the fundamentals of materials characterization from the standpoint of the incident photons or particles which interrogate nanoscale structures. These induced reactions lead to the emission of a variety of detected particles and photons. It is the energy and intensity of the detected beams that is the basis of the characterization of the materials. The array of experimental techniques used in nanoscale materials analysis covers a wide range of incident particle and detected beam interactions. Included are such important interactions as atomic collisions, Rutherford backscattering, ion channeling, diffraction, photon absorption, radiative and nonradiative transitions, and nuclear reactions. A variety of analytical and scanning probe microscopy techniques are presented in detail.

Order online at springer.com / or for the Americas call (toll free) 1-800-SPRINGER / or email us at: customerservice@springernature.com. / For outside the Americas call +49 (0) 6221-345-4301 / or email us at: customerservice@springernature.com.

The first € price and the £ and \$ price are net prices, subject to local VAT. Prices indicated with [1] include VAT for books; the €(D) includes 7% for Germany, the €(A) includes 10% for Austria. Prices indicated with [2] include VAT for electronic products; 19% for Germany, 20% for Austria. All prices exclusive of carriage charges. Prices and other details are subject to change without notice. All errors and omissions excepted. [3] No discount for MyCopy.

