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| 1. Record Nr. | UNINA9910451694003321 |
| Titolo | Biological low-voltage scanning electron microscopy [[electronic resource] /] / edited by Heide Schatten, James B. Pawley |
| Pubbl/distr/stampa | New York, : Springer, c2008 |
| ISBN | 1-281-13990-4 9786611139902 0-387-72972-0 |
| Edizione | [1st ed. 2008.] |
| Descrizione fisica | 1 online resource (328 p.) |
| Altri autori (Persone) | SchattenHeide PawleyJames B |
| Disciplina | 570.2825 |
| Soggetti | Low-voltage scanning electron microscopy Field emission cathodes Scanning electron microscopes Electronic books. |
| Lingua di pubblicazione | Inglese |
| Formato | Materiale a stampa |
| Livello bibliografico | Monografia |
| Note generali | Description based upon print version of record. |
| Nota di bibliografia | Includes bibliographical references and index. |
| Nota di contenuto | The Early Development of the Scanning Electron Microscope -- LVSEM for Biology -- The Aberration-Corrected SEM -- Noise and Its Effects on the Low-Voltage SEM -- High-Resolution, Low Voltage, Field-Emission Scanning Electron Microscopy (HRLVFESEM) Applications for Cell Biology and Specimen Preparation Protocols -- Molecular Labeling for Correlative Microscopy: LM, LVSEM, TEM, EF-TEM and HVEM -- Low kV and Video-Rate, Beam-Tilt Stereo for Viewing Live-Time Experiments in the SEM -- Cryo-SEM of Chemically Fixed Animal Cells -- High-Resolution and Low-Voltage SEM of Plant Cells -- High-Resolution Cryoscanning Electron Microscopy of Biological Samples -- Developments in Instrumentation for Microanalysis in Low-Voltage Scanning Electron Microscopy. |
| Sommario/riassunto | Field-emission, low-voltage scanning electron microscopy (LVSEM) is a field that has grown tremendously in recent years because it offers the optimal method for viewing complex surfaces at high resolution and in three dimensions. However, even though the instrumentation required to get good results at low beam voltage has become increasingly |

available, there has been a lag in its application to biological specimens. What seemed to be missing was volume that combined both the theory and practice of using this equipment in an optimal manner with a thorough treatment of biological specimen preparation. *Biological Low-Voltage Scanning Electron Microscopy* is the first book to address both of these aspects of biological LVSEM. After providing a thorough description of the unique advantages and the operating constraints related to operating a scanning electron microscope at low beam voltage, the remainder of book focuses on the the best way to image all types of plant and animal cells and covers specimens that range from macromolecules to the surfaces revealed by de-embedding resin-embedded samples. Advanced specimen preparation techniques such as cryo-LVSEM, and immuno-gold-LVSEM are fully covered, as is x-ray microanalysis at low beam voltage and live-time stereo imaging. The preparative protocols provided represent the distilled essence of the experience of a group of world-renowned authors who have, for many decades, been instrumental in developing and applying new approaches to LVSEM to support their own biological research.
