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Nota di contenuto	Principles and Practice of Variable Pressure/Environmental Scanning Electron Microscopy (VP-ESEM); Contents; Preface; 1 A Brief Historical Overview; 1.1 Scanning Electron Microscopy; 1.1.1 The Beginnings; 1.1.2 The Need for Added Capabilities; 1.2 The Development of Imaging in a Gas Environment; 1.2.1 Overcoming the Limits of Conventional SEM; 1.2.2 Leaps and Bounds; 2 Principles of SEM; 2.1 Introduction; 2.1.1 Why Use An Electron Beam?; 2.1.2 The SEM Column; 2.1.3 Why Do We Need a Vacuum System?; 2.2 Electron Sources; 2.2.1 Thermionic Emission Sources; 2.2.2 Field Emission Sources 2.3 Electron Optics2.3.1 Lenses; 2.3.2 Lens Aberrations; 2.4 Signals and Detection; 2.4.1 Primary Electrons and the Interaction Volume; 2.4.2 Backscattered Electrons; 2.4.3 Secondary Electrons; 2.4.4 X-ray Radiation; 2.4.5 Cathodoluminescence; 2.5 Practical Aspects of Electron Beam Irradiation; 2.5.1 Radiation Damage; 2.5.2 Minimising Specimen Charging - Low-Voltage SEM; 2.5.3 Increasing Surface and Bulk Conductivities; 2.6 SEM in Operation; 2.6.1 Building Up an Image; 2.6.2

Magnification; 2.6.3 Signal-to-Noise Ratio; 2.6.4 Contrast; 2.6.5 Adjusting the Contrast; 2.6.6 Resolution
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Sommario/riassunto

Offers a simple starting point to VPSEM, especially for new users, technicians and students containing clear, concise explanationsCrucially, the principles and applications outlined in this book are completely generic: i.e. applicable to all types of VPSEM, irrespective of manufacturer.Information presented will enable reader to turn principles into practicePublished in association with the Royal Microscopical Society (RMS) -www.rms.org.uk