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Nota di contenuto	In-situ TEM: History and Status -- Electron irradiation effects and in-situ irradiation -- In-situ Nanomechanical TEM -- In-situ Heating TEM -- In-situ Basing TEM -- In-situ Photoelectric TEM -- Lorentz TEM -- Liquid cell TEM -- Environment TEM -- Ultrafast TEM -- Future of in-situ TEM.
Sommario/riassunto	This book focuses on in-situ transmission electron microscopy (TEM), an investigatory technique used to observe a sample's response to a given stimulus (including electron irradiation, thermal excitation, mechanical force, optical excitation, electric and magnetic fields) at the nanoscale in real time. The book introduces readers to the technical strategy behind the in-situ technique and its developments. It reviews the research frontiers of using in-situ TEM in energy conversion and storage, catalysis, nanomaterials synthesis, nanoelectronics, etc. Furthermore, it discusses the future prospects for in-situ TEM. The book offers a valuable guide for all undergraduate and graduate students who are interested in TEM characterization technology. It also serves as a reference source on cutting-edge in-situ techniques for researchers and engineers.