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 Probe Channeling; 2.3.6 Applications to Materials Research; 2.3.6.1
 Semiconductors; 2.3.6.2 Ceramics; 2.3.6.3 Nanocrystalline Materials;
 2.3.7 References; 2.4 Scanning Auger Microscopy (SAM) and Imaging X-
 Ray Photoelectron Microscopy (XPS); 2.4.1 Introduction; 2.4.2 Basic
 Principles of Auger Electron Spectroscopy (AES) and X-Ray
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 Quantitative Analysis in AES and XPS
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 2.4.4.5 Beam Current Fluctuation Effects
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Sommario/riassunto

Comprehensive in coverage, written and edited by leading experts in the field, this Handbook is a definitive, up-to-date reference work. The Volumes Methods I and Methods II detail the physico-chemical basis and capabilities of the various microscopy techniques used in materials science. The Volume Applications illustrates the results obtained by all available methods for the main classes of materials, showing which technique can be successfully applied to a given material in order to obtain the desired information. With the Handbook of Microscopy, scientists and engineers involved in m

2. Record Nr.	UNINA9910557436603321
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Sommario/riassunto	Due to their lightweight and high specific strength, Mg-based alloys are considered as substitutes to their heavier counterparts in applications in which corrosion is non-relevant and weight saving is of importance. Furthermore, due to the biocompatibility of Mg, some alloys with controlled corrosion rates are used as degradable implant materials in the medical sector. The typical processing route of Mg parts incorporates a casting step and, subsequently, a thermo-mechanical treatment. In order to achieve the desired macroscopic properties and thus fulfill the service requirements, thorough knowledge of the relationship between the microstructure, the processing steps, and the resulting property profile is necessary. This Special Issue covers in situ and ex situ experimental and computational investigations of the behavior under thermo-mechanical load of Mg-based alloys utilizing modern characterization and simulation techniques. The papers cover investigations on the effect of rare earth additions on the mechanical properties of different Mg alloys, including the effect of long-period stacking-ordered (LPSO) structures, and the experimental and computational investigation of the effect of different processing routes.