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Conditions of End-Hall Ion Source; 4.3 Operation of End-Hall Ion Source with Excessive Electron Emission; 4.4 Ion Beam Energy of End-Hall Ion Source; 4.5 End-Hall Ion Source Optimum Magnetic Field for Ion Beam Current; 4.6 Ion Beam Energy Distribution as a Function of Angle With Various Emission Currents; 4.7 Conclusion; References; Chapter 5: Cathode Neutralizers for Ion Sources; 5.1 Introduction; 5.2 Ion Beam and its Practical Neutralization; 5.3 Hot Filament Electron Source and Thermoelectron Emission; 5.4 Hollow Cathodes; 5.5 Conclusions about Cathode Neutralizers; 5.6 Appendix 5.A: Web Addresses; References; Chapter 6: Industrial Gridless Broad-Beam Ion Source Producers, Problems and the Need for Their Standardization; 6.1 World Producers of Ion Sources; 6.2 Specific Designs of End-Hall Current Ion Sources for Thin Film Technology; 6.3 Nontraditional Broad Beam Ion Sources; 6.4 Linear Ion Sources; 6.5 Hall-Current Ion Sources Basic Operation Parameter Problems; 6.6 The Need for Standardization of Ion Sources; 6.7 Conclusions; 6.8 Appendix 6.A: Web Addresses; References; Chapter 7: Operation of Industrial Ion Sources with Reactive Gases; 7.1 Introduction; 7.2 Low- and High-Temperature Oxidation; 7.3 Ion Source Operation with Dielectric and Insulating Depositions on an Anode; 7.4 End-Hall with Grooved Anode and Baffle; 7.5 End-Hall With Hidden Anode Area for Continuing Discharge Operation; 7.6 Practical Operation of Hall-Current Ion Sources with Reactive Gases; References; Chapter 8: Ion Beam and Radiation Impact on Substrate Heating; 8.1 Introduction; 8.2 Target-Substrate Heating By Radiation and Ion Beam; 8.3 Experimental Measurements of Ion Beam and Radiation Impact on a Target-Substrate

Sommario/riassunto

Due to the large number of uses of ion sources in academia and industry, those who utilize these sources need up to date and coherent information to keep themselves abreast of developments and options, and to chose ideal solutions for quality and cost-effectiveness. This book, written by an author with a strong industrial background and excellent standing, is the comprehensive guide users and developers of ion sources have been waiting for. Providing a thorough refresher on the physics involved, this resource systematically covers the source types, components, and the operational parameters.
