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4.2 Radio Frequency Glow Discharge (rf-GD) Operation Principles; 4.3 Comparisons with dc-Powered Glow Discharge Sources; 4.4 Instrumentation; 4.5 Analytical Applications; 4.6 Summary; 4.7 References; 5 Depth Profile Analysis; 5.1 Introduction; 5.2 Instrumentation; 5.3 Practical Aspects and Results; 5.4 Conclusions; 5.5 References; 6 Numerical Modeling of Analytical Glow Discharges 6.1 Introduction 6.2 Description of the Models; 6.3 Results and Discussion; 6.4 Conclusion; 6.5 References; 7 Application of Glow Discharge Optical Emission Spectrometry in the Steel Industry; 7.1 Introduction; 7.2 Measurement Traceability of Coating Weight and Chemical Composition by GD-OES; 7.3 Method of Coating Analysis by GD-OES; 7.4 Depth Profiles of Coatings by GD-OES; 7.5 Factors Affecting Depth Profiles; 7.6 Validation and Verification of Calibration Graphs; 7.7 References; 8 Surfaces, Thin Films and Coatings; 8.1 Introduction; 8.2 Surfaces; 8.3 Thin Films; 8.4 Coatings 8.5 Conclusions 8.6 Acknowledgements; 8.7 References; 9 Comparison of Glow Discharge Atomic Spectrometry with Other Surface Analysis Methods; 9.1 Introduction; 9.2 Surface Analysis Methods Competitive with Glow Discharge Spectrometry; 9.3 Analytical Examples; 9.4 References; 10 Analysis of Samples of Nuclear Concern with Glow Discharge Atomic Spectrometry; 10.1 Introduction; 10.2 Instrumentation; 10.3 Practical Aspects and Results; 10.4 Conclusions; 10.5 Acknowledgements; 10.6 References; 11 Analysis of Nonconducting Materials by dc Glow Discharge Spectrometry; 11.1 Introduction 11.2 Use of a Conducting Host Matrix 11.3 Use of a Conducting Secondary Cathode; 11.4 Conclusion; 11.5 References; 12 Standards and Reference Materials for Glow Discharge Spectroscopies; 12.1 Introduction; 12.2 Practical Aspects; 12.3 Conclusions; 12.4 References; 13 Analysis of Liquid Samples Using Glow Discharge Spectroscopies; 13.1 Introduction; 13.2 Instrumentation; 13.3 Practical Aspects and Applications; 13.4 References; 14 GC Speciation with GDMS Detection; 14.1 Introduction; 14.2 Elemental Speciation; 14.3 Instrumentation; 14.4 Practical Aspects and Results; 14.5 Conclusions 14.6 References

Sommario/riassunto

This multi-author, edited volume includes chapters which deal with both basic and highly complex applications. Glow discharge devices are now being used in very novel ways for the analysis of liquids and gases, including molecular species detection and identification, an area that was beyond the perceived scope of applicability just ten years ago. It is expected that the next decade will see a growth in the interest and application of glow discharge devices far surpassing the expectations of the last century. Responding to the rapid growth in the field Includes both GD-MS and GD-AES<
