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Nota di contenuto	Frontmatter -- Preface / Golloch, Alfred -- Contents -- List of Contributing Authors -- 1. Introduction / Golloch, Alfred -- 2. Analytics of Rare Earth Elements - Basics and Methods / Golloch, Alfred -- 3. Separation/Preconcentration Techniques for Rare Earth Elements Analysis / Hu, Bin / He, Man / Chen, Beibei / Jiang, Zucheng -- 4. Chromatographic Techniques for Rare Earth Elements Analysis / Chen, Beibei / He, Man / Zhang, Huashan / Jiang, Zucheng / Hu, Bin -- 5. Analysis and Speciation of Lanthanoides by ICP-MS / Telgmann, Lena / Lindner, Uwe / Lingott, Jana / Jakubowski, Norbert -- 6. Inductively Coupled Plasma Optical Emission Spectrometry for Rare Earth Elements Analysis / He, Man / Hu, Bin / Chen, Beibei / Jiang, Zucheng -- 7. Application of Spark Atomic Emission Spectrometry for the Determination of Rare Earth Elements in Metals and Alloys / Niederstraßer, Jörg -- 8. Use of X-ray Fluorescence Analysis for the Determination of Rare Earth Elements / Schramm, Rainer -- 9. Neutron Activation Analysis of the Rare Earth Elements (REE) - With Emphasis on Geological Materials / Stosch, Heinz-Günter -- 10. Automated Quantitative Rare Earth Elements Mineralogy by Scanning Electron Microscopy / Sindern, Sven / Meyer, F. Michael -- 11. Novel Applications of Lanthanoides as Analytical or Diagnostic Tools in the Life Sciences by ICP-MS-based Techniques / Müller, Larissa / Traub, Heike / Jakubowski, Norbert -- 12. Lanthanoides in Glass and Glass

Ceramics / Meinhardt, Jürgen / Kilo, Martin / Somorowsky, Ferdinand / Hopp, Werner -- 13. Analysis of Rare Earth Elements in Rock and Mineral Samples by ICP-MS and LA-ICP-MS / Sindern, Sven -- 14. Recycling of Rare Earth Elements / Lorenz, Tom / Bertau, Martin -- Index

Sommario/riassunto

The Handbook of Rare Earth Elements focuses on the essential role of modern instrumental analytics in the recycling, purification and analysis of rare earth elements. Due to their numerous applications, e.g. in novel magnetic materials for computer hardware, mobile phones and displays, rare earth elements have become a strategic and valuable resource. The detailed knowledge of rare earth element contents at every step of their life cycle is of great importance. This reference work was compiled with contribution from an international team of expert authors from Academia and Industry to present a comprehensive discussion on the state-of-the-art of rare earth element analysis for industrial and scientific purposes, recycling processes and purification of REEs from various sources. Written with Analytical Chemists, Inorganic Chemists, Spectroscopists as well as Industry Practitioners in mind, the Handbook of Rare Earth Elements is an indispensable reference for everyone working with rare earth elements.
