

| | |
|-------------------------|---|
| 1. Record Nr. | UNINA9910831009003321 |
| Autore | Forsberg Kerstin |
| Titolo | Rare Metal Technology 2024 [[electronic resource] /] / edited by Kerstin Forsberg, Takanari Ouchi, Gisele Azimi, Shafiq Alam, Neale R. Neelameggham, Alafara Abdullahi Baba, Hong Peng, Athanasios Karamalidis |
| Pubbl/distr/stampa | Cham : , : Springer Nature Switzerland : , : Imprint : Springer, , 2024 |
| ISBN | 3-031-50236-1 |
| Edizione | [1st ed. 2024.] |
| Descrizione fisica | 1 online resource (473 pages) |
| Collana | The Minerals, Metals & Materials Series, , 2367-1696 |
| Altri autori (Persone) | OuchiTakanari AzimiGisele AlamShafiq NeelamegghamNeale R BabaAlafara Abdullahi PengHong KaramalidisAthanasios |
| Disciplina | 691.7 |
| Soggetti | Metals Building materials Materials - Analysis Energy storage Renewable energy sources Steel, Light Metal Metals and Alloys Materials Characterization Technique Mechanical and Thermal Energy Storage Renewable Energy |
| Lingua di pubblicazione | Inglese |
| Formato | Materiale a stampa |
| Livello bibliografico | Monografia |
| Nota di contenuto | Intro -- Preface -- Contents -- About the Editors -- Part I Recycling -- 1 Recycling of Discarded Tantalum Capacitors for Metal Recovery -- 2 Novel Process for Tin Recovery from Waste Print Circuit Boards (WPCBs) by Selective Oxidation Roasting Under HO Atmosphere -- 3 Recovery |

of Indium from Waste Liquid Crystal Display Screen by Reduction
Roasting Under H-HO Atmosphere -- 4 Development
and Assessment of Different Hydrometallurgical Processes
for Sustainable Recovery of Rare Earths from Spent NdFeB Magnets -- 5
High-Performance Solid Phase Extraction Chromatography as Part
of a Process for Recycling NdFeB Magnet Waste -- 6 Recovery of Rare
Earth Sulfate Hydrates Using Antisolvent Crystallization -- 7 Rare Earth
Magnet Recycling Via Liquid Magnesium Leaching and Distillation --
Part II Processing of Rare Earth Elements, Vanadium and Lithium -- 8
Extraction of Less Common Metals (REEs and Sc) from Greek Bauxite
Residue -- 9 Recovery of High Purity Vanadium Salts from Bayer Liquor
-- 10 Molecular Mechanisms in Specific Separation of Late Transition
Metals from Rare Earth Elements -- 11 Investigation
of the Solvometallurgical Leaching Performance of Light Rare Earth
Elements in Beylikova, Eskisehir Ores -- 12 Leaching Kinetics
of Vanadium from Calcification Roasted Vanadium Slag in (NH)CO --
13 Direct Recycling of Lithium-Ion Batteries Using Hydrothermal
Relithiation -- 14 Leaching of Critical Metals from Spent Lithium-Ion
Battery Using Acidic Organophosphorus Extractant -- 15
Mechanochemical Extraction of Lithium from -Spodumene at Low
Temperatures -- 16 Synthetic Alkali Aluminosilicate-Hydroxide
Systems as an Analogue to Optimize Lithium Recovery from LCT
Pegmatites -- Part III Biometallurgy and Flotation -- 17
Bacteriophage-Based Sorption of Rare Earth Elements from Dilute
Aqueous Solutions.
18 Bioleaching of Post-consumer LiCoO Batteries Using Aspergillus
Niger -- 19 Extraction of Platinum Group Metals from Metallurgical
Plant Effluent Using Bioadsorbents -- 20 Concentrated-Solar-
Thermal-Driven Recycling of Li-Ion Battery Waste Through
Carbothermic Reduction: Thermodynamic Assessment
and Experimental Verification -- 21 Beneficiation of Low-Grade
Lithium Ores from Eastern Kazakhstan by Dense Media Separation
(DMS) and Froth Flotation -- 22 Investigating the Selectivity
of Xanthates for the Flotation Separation of Base Metal and PGM Ores
-- Part IV Separation and Purification -- 23 Hydrometallurgical
Recovery of Zinc from Municipal Solid Waste Incineration Fly Ash -- 24
Innovative Solvent Extraction Processes for the Separation of Indium,
Germanium, and Gallium from Iron -- 25 Antagonistic Separation
of Nickel Over Copper from Ammoniacal Binary Solution Using LIX 84-
IC Mixture with TBP -- 26 Separation of Critical Metals Using
Supported Liquid Membranes PTFE-Cyanex 272 -- 27 Solvent
Extraction of Fe³ with 2-Octanol from Wastewater After Gallium
Recovery -- 28 Manipulating Iron Precipitation and Gold Department
During Pressure Oxidation -- 29 Selective Precipitation of Valuable
Metals from Steel Slag Leach Liquor: Experimental and Theoretical
Approaches -- 30 Purification of an Indigenous Molybdenite
for Enhanced Steel Production -- Part V Electrometallurgy and High
Temperature Processes -- 31 Direct Preparation of Aluminum-
Vanadium Intermediate Alloy Through Electrolysis in NaAlF-KAlF-
AlF-NaVO Molten Salts -- 32 Gas Evolution During Nd and DyFe
Electrowinning -- 33 Parameter Study for the Production of DyFe
by Molten Salt Electrolysis -- 34 Electrochemical Recovery of Sb, Te,
and In in Choline Chloride-Ethylene Glycol DES Electrolyte -- 35
YCl-6HO Green Electro-metallurgical Preparation of YO.
36 Recovery of Antimony from Refinery Slag of Unified Mining
Company (EMUSA) -- 37 Studies of Layer Growth During
the Disintegration of Cemented Carbides with Vaporous Zinc -- 38
Rare-Earth Partitioning with Liquid Iron During Sulfidized Magnets

Vacuum Treatment -- 39 Effect of Ce Substitution with La and Nd on Microstructure and Mechanical Properties of AlCe -- Part VI
Poster Session -- 40 Effect of MgO, MnO, and AlO on Vanadium Extraction in Sodium Roasting-Water Leaching Process of Vanadium Slag -- 41 Efficient Extraction of Cd in Zn Recovery Process by Wet Leaching of Zn-Rich Dust -- 42 Extraction of Vanadium from High Calcium and High Phosphorus Vanadium Slag by Magnesiation Roasting-Acid Leaching -- 43 Theoretical Study on the Separation of Impurity Tellurium from Crude Selenium by Vacuum Distillation -- Author Index -- Subject Index.

Sommario/riassunto

This collection presents papers from a symposium on extraction of rare metals from primary and secondary materials and residues as well as rare extraction processing techniques used in metal production. The collection covers the extraction of less common or minor metals including elements such as antimony, bismuth, barium, beryllium, boron, calcium, chromium, gallium, germanium, hafnium, indium, manganese, molybdenum, platinum group metals, rare earth metals, rhenium, scandium, selenium, sodium, strontium, tantalum, tellurium, and tungsten. It also includes rare metals of low-tonnage sales compared to high-tonnage metals (iron, copper, nickel, lead, tin, zinc, or light metals such as aluminum, magnesium, or titanium and electronic metalloid silicon). Rare metal processing covers bio-metallurgy, hydro-metallurgy, and electro-metallurgy while novel high-temperature processes such as microwave heating, solar-thermal reaction synthesis, and cold crucible synthesis of rare metals are also addressed. Also included in this collection is the design of extraction equipment used in these processes from suppliers as well as laboratory and pilot plant studies. .
