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Nota di contenuto	Part 1: Energy Efficient Clean Metallurgical Technology -- Flash Ironmaking from Magnetite Concentrate in a Laboratory Reactor: Experimental and CFD Work -- Synthesis of Chromite for Subsequent Carburization by Methane-hydrogen Gas Mixture -- Effects of Hydrogen-enriched Reduction on Metallurgical Properties of Iron-Bearing Burdens under BF Operation with Cog Injection -- Microwave-intensified Reduction of Biochar-containing Briquettes -- Refractory Challenges in Lead Recycling Furnaces -- Synthesis of Carbide Ceramics via Reduction of Adsorbed Anions on an Activated Carbon Matrix -- Part 2: Simulation of High Temperature Process -- A CFD Based Algorithm for Kinetics Analysis of the Reduction of Hematite Concentrate by H2+CO Mixtures in a Drop Tube Reactor -- A Continuous Dynamic Process Model to Design a Carbon Profile toward Yield Improvement -- Alloy Yield Prediction Model Based on the Data Analysis in EAF Steelmaking Process -- Analysis of Jet Behavior and

Surface Fluctuations in the Meniscus of Fluid in a Physical Model of a Beam Blank Mold and CFD Modelling -- CFD Study of Gas-liquid Phase Interaction Inside a Submerged Lance Smelting Furnace for Copper Smelting -- Debottlenecking High Temperature Metallurgical Plants through Modeling and Simulation -- Assessment of Slag Entrainment in a RH Degasser through Physical Modelling Using Circulating Fluids of Different Densities/Oil Systems for Simulating Steel Melt/Slag -- Part 3: Fundamental Research of Metallurgical Process -- Investigate on the Phase Composition of Vanadium Slag with High CaO Content and Influence of P2O5 on Crystallization Kinetics of Spinels -- Thermal Analysis Kinetics of the Solid-State Reduction of Nickel Laterite Ores by Carbon -- Thermodynamic and Experimental Investigations of High Temperature Refractory Corrosion by Molten Slags -- Thermodynamic Calculation on the Reactivity between Slag and Ti-stabilized Stainless Steel -- Part 4: Alloys and Materials Preparation -- Development of a Novel, Low-cost Titanium Extraction Process for Bulk or Powder Applications -- Evolution of Non-metallic Inclusions in Solid Fe-Al-Ti-N Alloy during Heating -- Preparation of Low-carbon Ti2O3 by Carbon thermal Reduction of the Mixture of Titanium Dioxide and Activated Carbon under Vacuum Condition -- Pyrometallurgical Studies for Manganese Extraction Using Turkish Ore Reserves -- Trace Elements Behavior during the Oxidation of Liquid SiMn Alloy -- Effect of Microalloy Elements V And Mg on Organization at High Heat Input Welding Shipbuilding Structure Steel -- Part 5: Extraction and Recovery of Metals -- Effect of Carbon Reductant On The Formation of Copper Doped Titanium Oxycarbonitride by Carbothermal Reduction and Nitridation -- Cohering Behavior of Scrap Powder in Kiln by a Novel Natural Stacking Method -- Direct-to-blister Copper Smelting with the ISASMELT™ Process -- Improving Separation of Cu-Fe from Copper Slag by Mineral Phase Reconstruction -- Phase Transformation of High Calcium Type Tin, Iron-bearing Tailings during Magnetizing Roasting Process -- Sensitivity of Contactless Ultrasound Processing to Variations of the Free Surface of the Melt with Induction Heating -- Extraction of Zinc from Willemite by Sodium Salt Roasting and Ammonia-leaching Process -- Part 6: Ironmaking and Steelmaking -- Influence of Puhrstahl Heraeus Refining Process on Aluminum Consumption in Interstitial-Free Steel Smelting Process -- Formation Mechanisms of Inclusions in Spring Steels -- Investigation on Coal Combustion Behaviors under the Oxygen Blast Furnace -- Inclusion Control with Ca Treatment to Improve Castability of a Low Carbon Al Killed Steel -- High Temperature Mineralization Mechanism of Granules during Iron Ore Sintering Process -- Reduction Behaviors of Sinter Made from Magnetite Concentrates in Reducing Process Simulated COREX Shaft Furnace -- Part 7: Treatment and Recycling of Slag/Wastes -- Introduction of Matte Droplets in Copper Smelting Slag -- Dissolution Behavior of Fe from Glassy Oxide Phase in Steelmaking Slag -- Penetration Depth of Microwave in Tire Rubber -- Effect of TiO2 on Thermophysical Properties and Structure of P-bearing Steelmaking Slags -- Analysis for Optimum Conditions for Recovery of Valuable Metals from E-Waste through Black Copper Smelting -- Precipitation Behavior of MxTi3-xO5 in the Titanium-Bearing Electric Furnace Slag -- Part 8: Utilization of Complex Ores -- Evaluation of Molybdenum Concentrates -- Intensification of Gold Leaching from a Multi-refractory Gold Concentrate by the Two-stage Roasting-alkaline Sulfide Washing-cyanidation Process -- The Recovery of Cobalt from Copper Converter Slag by Reduction-sulfurization Smelting at High Temperature -- Roasting of Celestite in Laboratory Scale Rotary Furnace -- The Experimental Study of CaCO3 in the Vanadium

Extraction Process -- The Extraction of Zinc from Zinc Ferrite by Calcified Roasting and Ammonia Leaching Process -- Part 8: Poster I -- A New Method to Detect the High Temperature Distribution in the Ironmaking and Steelmaking Industry -- A Study for Reconstructing the Three-dimensional Temperature Field of a Blast Furnace Raceway Based on Monte Carlo Method -- Behaviour of Silicon in Nickel Laterite by Carbothermic Reduction in Vacuum -- Effect of CaO Addition on the Behavior of Vanadium and Phosphorus during Oxidation and Leaching Process -- Effect of Inner Shape on Blast Furnace Performance for Iron Making -- Effect of Lance Configurations on Coal Flow and Combustion Characteristics -- Effect of Silicon on Removal of Phosphorus from High Phosphorus Si-Mn alloy by CaO-Based Slag -- Effect of Super Gravity on the Solidification Structure and C Segregation of High Carbon Steel -- High Temperature Distribution Measurement of the Blast Furnace Raceway through Imaging Techniques and Optimization Algorithms -- Kinetics and Reduction Behavior of Self-reducing Briquettes Containing Blast Furnace Dust -- Model Analysis of the Phenomena of Pulverized Coal Injection in Blast Furnace -- Sintering Performance of Blends Containing High Proportion of Limonite Iron Ore Fines -- Thermodynamics Study on Phosphorus Distribution between 2CaO•SiO2-3CaO•P2O5 Solid Solution and Liquid Slag -- Two-step Copper Smelting Process at Dongying Fangyuan -- Part 9: Poster II -- Comparison of the Ringing Characteristics between Acid and Alkaline Iron Ore Pellets Powder in Kiln -- Comprehensive Utilization of Ludwigite Iron Concentrate by Gas-based Direct Reduction -- Decarburization of Spent Petrochemical Catalysts via Microwave Oxidation Roasting -- Effect of FeO Content in Laterite Nickel Slag on the Corrosioin Behaviour of Refractory Materials -- Effects of Blowing Conditions on the Dispersion States of Materials Charged into Bottom Blown Oxygen Smelting Furnace -- Effects of Pre-oxidation and Additives on Carbothermic Reduction of Ilmenite Concentrate -- Influence of Converter Slag on Decomposition Behavior of Limestone during BOF Steelmaking Process -- Influence of Hot Charge on Blast Furnace Performance for Iron Making -- Investigation and Application of Evolution System of Stock Surface Gas Flow Distribution in Blast Furnace -- Investigation of the Carbothermic Reduction of Chromium-containing Vanadium Extraction Residue -- Molecular Dynamics Study of the Structural Properties with Varying -- One-step Extraction of Lead from Spent Lead-acid Battery Paste via Reductive Sulfur-fixing Smelting: Thermodynamic Analysis -- Removal of Cd(II) Ion from Aqueous Solution by Adsorption on Wasted Low Grade Phosphorus-containing Iron Ore -- Research on the Flow Behavior of Molten Slag through Pore -- Study on the Influence of Materials on Heat Transfer Characteristics of Blast Furnace Cooling Staves.

Sommario/riassunto

This collection features contributions covering the advances and developments of new high-temperature metallurgical technologies and their applications to the areas of: processing of minerals; extraction of metals; preparation of metallic, refractory, and ceramic materials; treatment and recycling of slag and wastes; conservation of energy; and environmental protection. The volume will have a broad impact on the academics and professionals serving the metallurgical industries around the world by providing them with comprehensive coverage of a wide variety of topics.