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Nota di contenuto	Part 1: Energy and Environmental Issues in Materials Manufacturing and Processing: Opportunities in the Steel Industry -- Waste Energy Recovery Technology of Iron and Steel Industry in China -- Green Manufacturing Process of Shougang Jingtang Steel Plant -- The Introduction and Process Optimization Research of Oxygen Blast Furnace Ironmaking Technology -- Prediction and optimal scheduling of byproduct gases in steel mill: Trends and challenges -- Processing Non-Oriented Electrical Steels Using Inclined/Skew Rolling Schemes -- A Possible Way for Efficient Utilization of Coal Energy: The Combined Process of Ironmaking with Gasoline Synthesis and Electricity Generation -- The influence of water vapour on the fuming rate in a ferromanganese system -- Part 2: Energy and Environmental Issues in Materials Manufacturing and Processing: Opportunities in Aluminum Production, Waste Heat and Water Recovery -- Approach for pyrolysis

gas release modelling and its potential for enhanced energy efficiency of aluminium remelting furnaces -- Numerical approach for the implementation of the interaction of pyrolysis gases and combustion products in an aluminium melting furnace -- Fluoropolymer Coated Condensing Heat Exchangers for Low-grade Waste Heat Recovery -- Nitrate and other anion removal from waste water using the Hydroflex technology -- Mechanical Analysis of Raceway Formation in Bulk Bed of Blast Furnace -- Part 3: Materials for Coal-Based Power: Materials For Coal-Based Power: Session I -- Ni-Fe based alloy GH984G used for 700• coal-fired power plant -- Part 4: Materials for Coal-Based Power: Materials For Coal-Based Power: Session II -- Creep strength and oxidation resistance of industrially made G115 Steel pipe -- Accelerated creep test for new steels and welds -- Part 5: Materials for Coal-Based Power: Materials For Coal-Based Power: Session IV -- The Reliability Analysis of 12Cr1MoVG and T23 Used for USC Boilers Water Wall -- Part 6: Materials for Coal-Based Power: Poster Session -- Effect of high-frequency induction hardening on stress corrosion of a 12% Cr martensitic stainless steel -- Fireside corrosion behaviors of Inconel 740 H superalloy in various SO2 contents -- High Cycle Fatigue Behavior of HAYNES282 Superalloy -- Recent Development in the Characteristics of Alloy 625 for A-USC Steam Turbine Castings -- Part 7: Materials for Gas Turbines: Coatings -- EVOLUTION OF THE THERMAL CONDUCTIVITY OF Sm2Zr2O7 UNDER CMAS ATTACK -- Part 8: Materials for Gas Turbines: Hot Corrosion and New Materials -- Development of a new high strength and hot corrosion resistant directionally solidified superalloy DZ409 -- Part 9: Materials for Gas Turbines: Microstructure and Processing -- Modeling the Diffusion of Minor Elements in Different MCrAlY – Superalloy Substrates at High Temperature -- ON HEALING MECHANISM OF CAST POROSITIES IN CAST NI-BASED SUPERALLOY BY HOT ISOSTATIC PRESSING -- The Influence of Dendritic Segregation Degree to the Recrystallization Nucleation in U4720LI -- Part 10: Materials for Gas Turbines: Poster Session -- Stress Rupture Properties of Alloy 783 -- Study on the Undercoolability and Single Crystal Castability of Nickel-Based Superalloys -- Part 11: Materials for Nuclear Energy: Materials for Nuclear Applications I -- Enhancing the High-Cycle Fatigue Property of 316 Austenitic Stainless Steels through Introduction of Mechanical Twins by Cold-Drawing -- Part 12: Materials for Nuclear Energy: Materials for Nuclear Applications II -- Microstructure Evolution of a Reactor Pressure Vessel Steel during High-temperature Tempering -- Part 13: Materials for Nuclear Energy: Environmental Effects -- Effect of Steam Pressure on the Oxidation Behaviour of Alloy 625 -- Friction Stir Processing of Degraded Austenitic Stainless Steel Nuclear Fuel Dry Cask Storage System Canisters -- Part 14: Materials for Nuclear Energy: Accident Tolerant Fuels & Irradiation Effects -- The Mechanical Response of Advanced Claddings during Proposed Reactivity Initiated Accident Conditions -- First principles investigations of alternative nuclear fuels -- Comparative study of thermal conductivity of SiC and BeO from ab initio calculations -- Part 15: Materials for Oil and Gas and AMREE Oil & Gas III -- Anisotropic behaviors for X100 high grade pipeline steel under stress constraints -- Co-relation of microstructural features with tensile and toughness characteristics of X70 grade steel -- Development and applications of new generation Ni-containing cryogenic steels in China -- Microstructure analysis and weldability investigation of stainless steel clad plate -- Microstructure and Properties of High Performance Pipeline Steels -- Sensitivity variation of nanomaterials at different operating temperature conditions.

Sommario/riassunto

This collection highlights materials research and innovations for a wide

breadth of energy systems and technologies. The volume includes papers organized into the following sections: Energy and Environmental Issues in Materials Manufacturing and Processing Materials in Clean Power Materials for Coal-Based Power Materials for Energy Conversion with Emphasis on SOFC Materials for Gas Turbines Materials for Nuclear Energy Materials for Oil and Gas.