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Technology for Extraction of Iron from Ores and Other Materials; Nanotechnology for Uranium Separations and Immobilization; How the Classic Materials Science Stool is being Changed by the Sustainability Stool; Impact of Materials Selection on the Sustainability of Wind Energy; Precipitation Behavior of Chromium in Chromium(III)-Bearing Slag; Improved Energy Efficiency and Environmental Benefits for Calcium Treatment in Steel; NANOTECHNOLOGY FOR ENERGY; Optical Characterization of Chemically Deposited SbCuS Thin Films Examining Defects in Solid Core 2-D Photonic Band-Gap Fibers with High Index InclusionsNanophased Materials in Supercritical CO2: Ceramic Nanopowder Synthesis, Encapsulation and Deposition; Influence of Gas Flow Rate on the Formation of ZnO Nanorods and Their Effects on Photoelectrochemical Response; Nanocoating Enhanced Optical Fiber Sensors; Surface Plasmon Resonant Enhanced Optical Transmission through ZnO/Ag/ZnO Multilayered Films; Controlled Shape Synthesis of BaTiO3-(Mn0.5Zn0.5)Fe2O4 Nanocomposites; Author Index

Sommario/riassunto

The Materials Science and Technology 2009 Conference and Exhibition (MS&T'09) was held October 25-29, 2009, in Pittsburgh, Pennsylvania. A major theme of the conference was Environmental and Energy Issues. Papers from three of the symposia held under that theme are included in this volume. These symposia include Materials Solutions for the Nuclear Renaissance; Green Engineering and Environmental Stewardship; and Nanotechnology for Energy. These symposia included a variety of presentations with sessions focused on sustainable energy, photovoltaics, nanowires and composites, energy harvesting