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Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Laser and Plasma Applications in Materials Science; Preface, Sponsors and Committees; Table of Contents; Invited Papers; Computer Simulations of Laser Ablation, Plume Expansion and Plasma Formation; Light Scattering Techniques Applied to Materials Science; Numerical Study of Butt Joining by Coaxial Powder Injection; I. Laser Matter Processing; Microstructure and Wear Behaviour of Al/TiB ₂ Metal Matrix Composite; Numerical Simulation of Laser Bending of Thin Plate Stress Analysis and Prediction; Angular Distribution and Ion Time of Flight Produced on Silicon Target by Laser Irradiation II. Materials for Telecommunication Application Investigation on Thin Films Deposited by PECVD from a DiPhenylMethylSilane (DPMS) Vapors or Mixed with Oxygen for Low-K Material Application; Enhancement of Blue Spectral Response Intensity of PbS via Polyethylene Oxide-Adding for the Application to White LEDs; Study of Optical and Structure Properties for Different Composition Tin-Antimony-Selenium Thin Film; III. Laser Induced Plasma; Analyses of Plasmas Produced by Laser Ablation of Fresh Aliments; On the Electron Distribution Effect of an

Expanding Laser Ablated Plasma

High Intensity Laser Ablation of Titanium Target Laser Ablation in Liquids: Colloidal Nanoparticles Synthesis; Characterization of CN_x/Si Using RBS, NRA and AES Techniques; Effect of Laser Fluence on the Properties of Sm₁-XNd X NiO₃ Thin Films Deposited by KrF Laser Ablation; Characterization of Laser Induced Plasmas by Fast Imaging for Graphite Target; IV. Laser Technology for Materials Science and Environment; A Review of the Laser Pyrolysis Technique Used to Synthesize Vanadium and Tungsten Oxide Thin Films; In Situ Metal Matrix Composite Surfacing by Laser Surface Alloying Laser-Based Additive Manufacturing of Metals Comparison of the Capability of Peak Function in Describing Real Condensation Particle Counter Profiles; V. Modelling of Materials Processing and Microstructures; One-Dimensional Modeling of a Dielectric Barrier Discharge in NeXe Mixture, Application to Excimer Lamps; Electromagnetic Modeling of Microwave Axial Injection Torch at Atmospheric Pressure Used for Thin Film Deposition; Modelling Sequential Impact of Molten Droplets on a Solid Surface in Plasma Spray Process; Fluid Model Simulation of DC Glow Discharges PIC-MC Simulation Method of DC Discharge Plasmas Modeling of Detector Radiations Response P-I-N in Technology Thin Film on ASIC (TFA) Intended for Digitalization in Medical Imagery; Effect of Argon Ambient Gas Pressure on Plume Expansion Dynamics; Simulation of Geometry and Heat Transfer in a Thin Wall Produced by Direct Laser Powder Deposition; Modeling the Formation of Periodic Nanostructures on Solid Surface Induced by Femtosecond Laser Ablation by Particle-in-Cell Method; VI. Plasma Discharge; Numerical Modeling of an End-Hall Ion Source Optimization of the Plasma Display Panel Characteristics with PIC-MCC Method

Sommario/riassunto

The aim of this special collection of 46 peer-reviewed papers was to reveal the state-of-the-art trends in the understanding of the fundamental aspects of interactions between laser beams and materials, and the modelling and simulation of laser and plasma materials surface transformation and processing. A useful guide to the subject. Review from Book News Inc.: The 46 studies were selected from presentations at the third international conference, LAPAMS 2010, held in Algiers in November 2010. The invited papers discuss computing simulations of laser ablation, plume expansion, and plasma format
