1. Record Nr. UNINA9910300375903321

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Titolo	Laser - Surface Interactions / / by Rashid A. Ganeev
Pubbl/distr/stampa	Dordrecht : , : Springer Netherlands : , : Imprint : Springer, , 2014
ISBN	94-007-7341-2
Edizione	[1st ed. 2014.]
Descrizione fisica	1 online resource (271 p.)
Disciplina	539
Soggetti	Lasers Photonics Materials—Surfaces Thin films Atoms Physics Optics, Lasers, Photonics, Optical Devices Surfaces and Interfaces, Thin Films Atoms and Molecules in Strong Fields, Laser Matter Interaction
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	1 Principles of Lasers and Laser-Surface Interactions -- 2 Interaction of Low-Power Laser Radiation with Surfaces -- 3 Analysis of Surface Optical Nonlinearities -- 4 Laser Cleaning of Art. 5 Nanoripples Formation on the Surfaces -- 6 Surface Engineering and Ablation -- 7 Ablation of Clusters from Surfaces for Harmonic Generation of Laser Radiation -- 8 X-ray Lasers, Plasma Properties, and Harmonic Generation From Surfaces.
Sommario/riassunto	This book is about the interaction of laser radiation with various surfaces at variable parameters of radiation. As a basic principle of classification we chose the energetic or intensity level of interaction of laser radiation with the surfaces. These two characteristics of laser radiation are the most important parameters defining entire spectrum of the processes occurring on the surfaces during interaction with electromagnetic waves. This is a first book containing a whole spectrum of the laser-surface interactions distinguished by the ranges

of used laser intensity. It combines the surface response starting from extremely weak laser intensities (~1 W cm-2) up to the relativistic intensities (~1020 W cm-2 and higher). The book provides the basic information about lasers and acquaints the reader with both common applications of laser-surface interactions (laser-related printers, scanners, barcode readers, discs, material processing, military, holography, medicine, etc) and unusual uses of the processes on the surfaces under the action of lasers (art conservation, rangefinders and velocimeters, space and earth explorations, surface engineering and ablation, and others). The scientific applications of laser-surfaces interactions (surface optical nonlinearities, surface enhanced Raman spectroscopy, surface nanostructuring, nanoripples and clusters formation, X-ray lasers and harmonic generation from the surfaces) are discussed from the point of view of the close relations between the properties of surface and matter, which is a cornerstone of most of studies of materials. The novelty of the approach developed in Laser - Surface Interactions is related with the interconnection of scientific studies with numerous applications of the laser-surface interactions separated in different chapters by the ranges of laser intensities. We present most recent achievements in this field. The book provides valuable information for different ranges of reader's preparedness to the laser-related topics (from unprepared readers, to students, engineers and researchers, professionals and academics).