

1. Record Nr.	UNINA9910964626103321
Autore	Allmen Martin v
Titolo	Laser-Beam Interactions with Materials : Physical Principles and Applications / / by Martin v. Allmen, Andreas Blatter
Pubbl/distr/stampa	Berlin, Heidelberg : , : Springer Berlin Heidelberg : , : Imprint : Springer, , 1995
ISBN	3-642-57813-6
Edizione	[2nd ed. 1995.]
Descrizione fisica	1 online resource (XII, 196 p. 27 illus.)
Collana	Springer Series in Materials Science, , 2196-2812 ; ; 2
Disciplina	620.1/1228
Soggetti	Condensed matter Lasers Materials - Analysis Condensed Matter Physics Laser Characterization and Analytical Technique
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Bibliographic Level Mode of Issuance: Monograph
Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	1. Introduction -- 2. Absorption of Laser Light -- 3. Heating by Laser Light -- 4. Melting and Solidification -- 5. Evaporation and Plasma Formation -- A. Appendix -- A.1 Selected Material Data -- A.2 Green's Functions for Solving the Heat-Flow Equation -- A.3 Numerical Solution of the Heat-Flow Equation -- A.4 Units and Symbols -- A.4.1 Constants -- A.4.2 Variables -- A.4.3 Subscripts -- References.
Sommario/riassunto	Laser-Beam Interactions with Materials treats, from a physicist's point of view, the wide variety of processes that lasers can induce in materials. Physical phenomena ranging from optics to shock waves are discussed, as are applications in such diverse fields as semiconductor annealing, hole drilling and fusion plasma production. The approach taken emphasizes the fundamental ideas and their interrelations. The newcomer is given the necessary important background material, while the active research worker finds a critical and comprehensive review of the field.