1. Record Nr. UNINA990009967850403321

Titolo	Computational algebraic geometry and commutative algebra : Cortona, 1991 / David Eisenbud, Lorenzo Robbiano, editors
Pubbl/distr/stampa	Cambridge : Cambridge University Press, 1993
ISBN	0-521-44218-4
Descrizione fisica	X, 298 p. ; 23 cm
Collana	Symposia mathematica ; 34
Disciplina	512.24 516.35
Locazione	MA1
Collocazione	C-66-(34
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia

2. Record Nr. UNINA9910300384903321

Autore	Giesecke Johannes
Titolo	Quantitative Recombination and Transport Properties in Silicon from Dynamic Luminescence / / by Johannes Giesecke
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2014
ISBN	3-319-06157-7
Edizione	[1st ed. 2014.]
Descrizione fisica	1 online resource (296 p.)
Collana	Springer Theses, Recognizing Outstanding Ph.D. Research, , 2190-5053
Disciplina	537.6226
Soggetti	Semiconductors Energy systems Materials—Surfaces Thin films Renewable energy resources Energy Systems Surfaces and Interfaces, Thin Films Renewable and Green Energy
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	Introduction -- Solar Cell Operation -- Dynamics of Charge Carriers -- Luminescence of Silicon -- Harmonically Modulated Lifetime -- Constraints of Dynamic Carrier Lifetime Techniques -- Evolution of the Experimental Setup -- Conceptual Advances: Recombination Properties -- Conceptual Advances: Transport Properties -- Summary and Outlook.
Sommario/riassunto	Harmonically modulated luminescence combines the advantages of highly sensitive luminescence metrology with an immediate dynamic access to carrier lifetime in semiconductors at a minimum of required a priori information. The present work covers theoretical, conceptual, and experimental advances of the harmonically modulated luminescence technique. Theoretical constraints of dynamic carrier lifetime techniques are rigorously elaborated, including the proof of their differential nature and their characteristics at nonuniform spatial

distributions of recombination rate. The pathway toward a unified, reliable, and versatile harmonically modulated carrier lifetime metrology is delineated - covering the entire solar cell production chain from bare ingots to finished solar cells. Accurate access to miscellaneous relevant recombination and transport properties via harmonically modulated luminescence is demonstrated and experimentally validated, embracing injection-dependent carrier lifetimes at extremely low injection conditions, a spatially resolved carrier lifetime calibration of luminescence images, and accurate approaches to both net dopant concentration and minority carrier mobility.