



Industrial Applications Of Ultrafast Lasers (Hardback)

By Richard A. Haight, Adra Carr

World Scientific Publishing Co Pte Ltd, Singapore, 2018. Hardback. Condition: New. Language: English. Brand new Book. This book describes the application of ultrafast laser science and technology in materials and processing relevant to industry today, including ultrafast laser ablation where fundamental studies have led to the development of the world's first femtosecond photomask repair tool. Semiconductor manufacturing companies worldwide use the tool to repair photomask defects, saving hundreds of millions in production costs. The most up-to-date ultrafast laser technologies are described and methods to generate high harmonics for photoelectron spectroscopy of industrially important materials are covered, with an emphasis on practical laboratory implementation. Basic device physics merged with photoemission studies from singleand polycrystalline materials are described. Extensions to new methods for extracting key device properties of metal-oxide-semiconductor structures, including band offsets, effective work functions, semiconductor band bending and defect-related charging in a number of technologically important gate oxides are detailed. Polycrystalline photovoltaic materials and heterostructures as well as organic light emitting materials are covered. This book describes both the history, and most recent applications of ultrafast laser science to industrially relevant materials, processes and devices.



Reviews

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