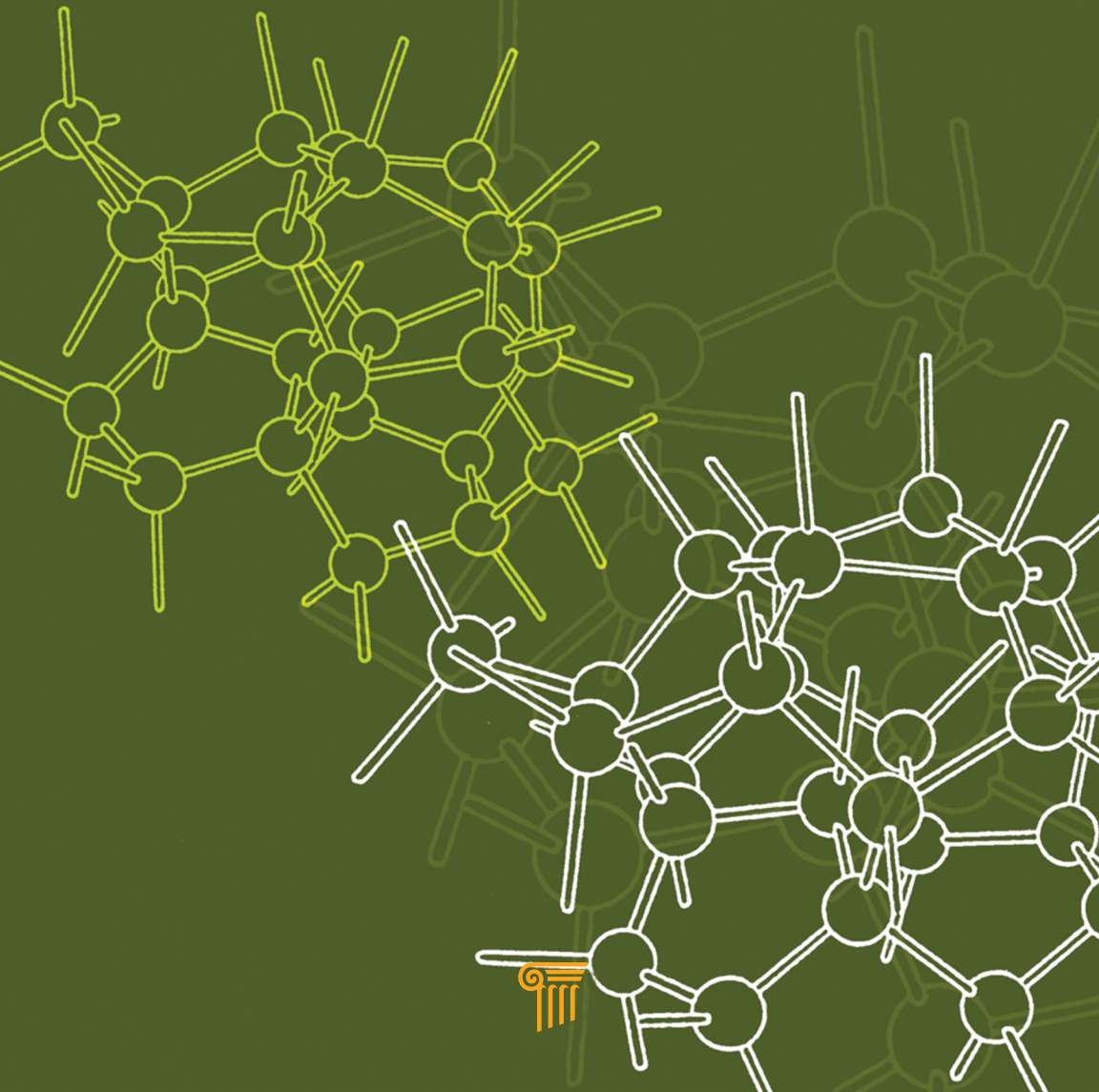
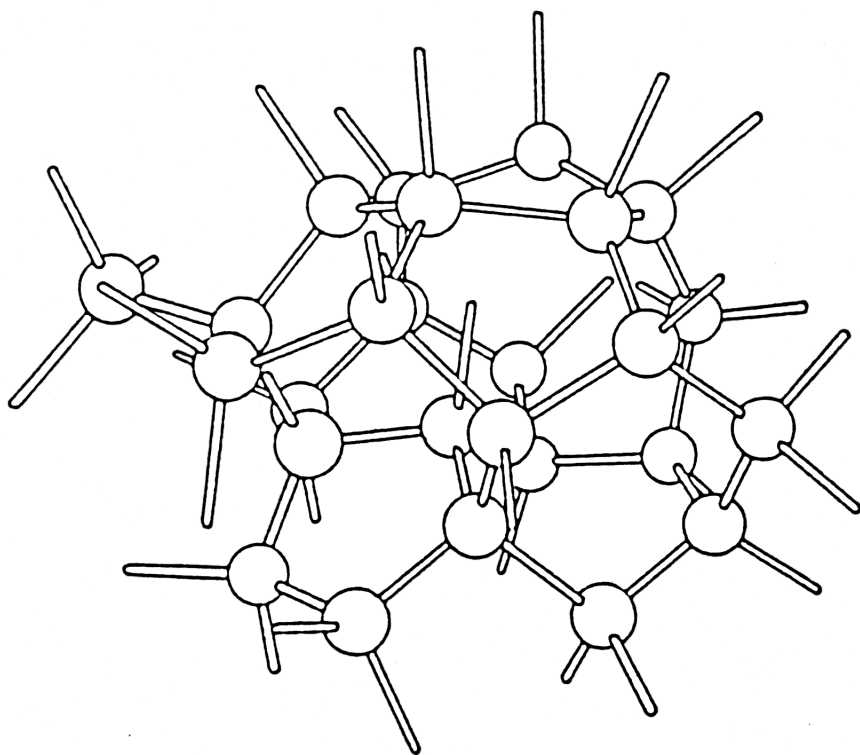


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Preface

The book deals with electronic and structural properties of light-induced defects, their light-induced creation processes, and related phenomena in crystalline, amorphous, and microcrystalline semiconductors. Recombination-enhanced defect reaction (REDR) has received much attention in connection with degradation of light-emitting diodes. Theoretical and experimental investigations relating to this issue have been extensively performed as discussed in Chapter 2, where we concentrate on REDR in GaAs and related materials. Light-induced defects in hydrogenated polycrystalline silicon are also treated in this chapter. The topics discussed in detail in Chapters 3 and 4 present our own investigations on hydrogenated amorphous silicon and hydrogenated microcrystalline silicon, respectively. The results on light-induced defects obtained from elsewhere are also presented in these chapters. Models of light-induced defect creation in hydrogenated amorphous silicon are presented separately in Chapter 3 as this issue has been investigated by many authors in connection with light-induced degradation of amorphous silicon solar cells. Light-induced phenomena in amorphous chalcogenides have received much attention both from a fundamental point of view and for their applications. These phenomena and related models are summarized in Chapter 5. We hope that the book will be useful for students and researchers interested in all the above topics.

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Kazuo Morigaki
Harumi Hikita
Chisato Ogihara
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