DESCRIPTION

Written by internationally recognized experts in the field with academic as well as industrial experience, this book concisely yet systematically covers all aspects of the topic.

The monograph focuses on the optoelectronic behavior of organic solids and their application in new optoelectronic devices. It covers organic field-effect and organic electroluminescent materials and devices, organic photonics, materials and devices, as well as organic solids in photo absorption and energy conversion. Much emphasis is laid on the preparation of functional materials and the fabrication of devices, from materials synthesis and purification, to physicochemical properties and the basic processes and working principles of the devices.

The only book to cover fundamentals, applications, and the latest research results, this is a handy reference for both researchers and those new to the field.

From the contents:

* Electronic process in organic solids
* Organic/polymeric semiconductors for field-effect transistors
* Organic/polymeric field-effect transistors

* Organic circuits and organic single molecular transistors

* Polymer light-emitting Diodes (PLEDs): devices and materials

* Organic solids for photonics

* Organic photonic devices

* Organic solar cells based on small molecules

* Polymer solar cells

* Dye-sensitized solar cells (DSSCs)

* Organic thermoelectric power devices

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**ABOUT THE AUTHOR**

**Wenping Hu** received his PhD from ICCAS in 1999, then, he worked in Osaka University and Stuttgart University as a research fellow of Japan Society for the Promotion of Sciences and Alexander von Humboldt Foundation, respectively. In 2003, he returned to ICCAS as a full professor from Nippon Telephone and Telegraph. He is focusing on organic optoelectronics since 1996. In 2010, he received the Young Chemist Award of Chinese Chemical Society and Royal Chemical Society of UK, and in 2012 he got the Chemical Innovation Award of Chinese Chemical Society and Evonik in recognition of his renowned research in the area of organic optoelectronic materials and devices.

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