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Photovoltaics Research Titles 2021

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Photovoltaics

Books and eBooks

Photovoltaic (or solar) cells directly convert sunlight into electric energy. This renewable energy source is a key pillar of an emerging clean energy system needed to prevent disastrous climate change. Capacities are growing steadily, possibly reaching 900 GW globally in 2021.

Intense Research and Development efforts are going into improving the efficiency and durability of the different solar cell types. The IET book titles included below, convey the state of the art of key technologies to boost PV technology.

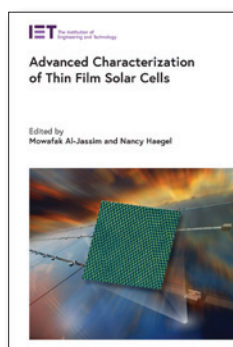
Advanced Characterization of Thin Film Solar Cells

Edited by Mowafak Al-Jassim, Nancy Haegel

Polycrystalline thin-film solar cells have reached a leveled cost of energy that is competitive with all other sources of electricity. This book provides researchers with a concise overview of the status of thin-film solar cell technology and characterization. Chapters describe material systems and their properties and then provide an in-depth look at relevant characterization methods and the learning facilitated by these.

2020 / £125 / \$165 / PBPO166
ISBN-13: 978-1-83953-023-4

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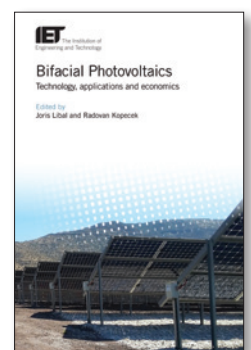
Bifacial Photovoltaics: Technology, applications and economics

Joris Libal, Radovan Kopecek

Bifacial Photovoltaics: Technology, applications and economics provides an overview of the history, status and future of bifacial PV technology with a focus on crystalline silicon technology, covering the areas of cells, modules, and systems. In addition, topics like energy yield simulations and bankability are addressed.

2018 / £115 / \$150 / PBPO107
ISBN-13: 978-1-78561-274-9

[Link >>](#) The IET Shop - Bifacial Photovoltaics



Hydrogen Passivation and Laser Doping for Silicon Solar Cells

Brett Hallam, Catherine Chan

Photovoltaic electricity generation is a rapidly growing industry, and a key pillar of a decarbonized energy system. Lasers are used to dope the semiconductor layers in solar cells, and it is necessary to passivate these laser-induced structures to prevent premature charge carrier recombination. This book conveys passivation techniques.

2021 / £125 / \$165 / PBPO134
ISBN-13: 978-1-78561-623-5

[Link >>](#) The IET Shop - Hydrogen Passivation and Laser Doping for Silicon Solar Cells



Reliability of Power Electronics Converters for Solar Photovoltaics Application

Ahteshamul Haque, Frede Blaabjerg, Huai Wang, Yongheng Yang and Zainul Abidin Jaffery

A hands-on, case study-backed reference of control strategies, fault classification mechanisms, and reliability analysis methods for PV modules, power electronic converters, and grid-connected PV systems. Written by an international team of researchers with excellent backgrounds in academia and industry.

2021 / £110 / \$145 / PBPO170
ISBN-13: 978-1-83953-116-3

[Link >>](#) The IET Shop - Reliability of Power Electronics Converters for Solar Photovoltaic Applications



Photovoltaics Books and eBooks

Silicon Solar Cell Metallization and Module Technology

Thorsten Dullweber, Loic Tous

Metallization is a key step in manufacturing of efficient and reliable solar cells. Written by world-wide renowned experts, this work covers metallization technologies, before describing ongoing R&D activities for the most relevant silicon solar cells metallization technologies. Later chapters deal with aspects of solar cell modules.

2021 / £130 / \$170 / PBPO174
ISBN-13: 978-1-83953-155-2

[Link »](#) The IET Shop - Silicon Solar Cell Metallization and Module Technology



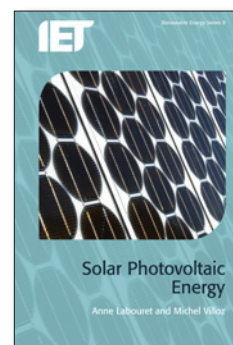
Solar Photovoltaic Energy

Anne Labouret and Michel Villos

Solar Photovoltaic Energy is a professional manual for designers, installers and managers and gives a detailed account of the physical phenomena as well as the available technology and technology currently in development for photovoltaic energy.

2010 / £78 / \$140 / PBRN0090
ISBN-13: 978-1-84919-154-8

[Link »](#) The IET Shop - Solar Photovoltaic Energy



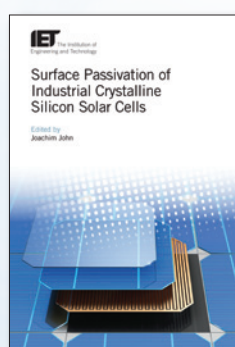
Surface Passivation of Industrial Crystalline Silicon Solar Cells

Edited by Joachim John

This timely overview of silicon solar cell surface passivation, written by the leading experts in the field, is a key read for students and researchers working with silicon solar cells, as well as solar cell manufacturers.

2018 / £115 / \$150 / PBPO106
ISBN-13: 978-1-78561-246-6

[Link »](#) The IET Shop - Surface Passivation of Industrial Crystalline Silicon Solar Cells



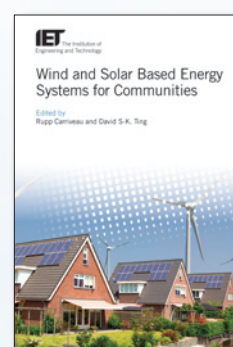
Wind and Solar Based Energy Systems for Communities

Edited by Rupp Carriveau, David S-K. Ting

This book brings together topics on the emerging area of community energy technology, covering key areas from generation through to considerations for the entire system, with an emphasis on the popular energy sources of wind power and solar power.

2018 / £100 / \$160 / PBPO130
ISBN-13: 978-1-78561-544-3

[Link »](#) The IET Shop - Wind and Solar Based Energy Systems for Communities



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