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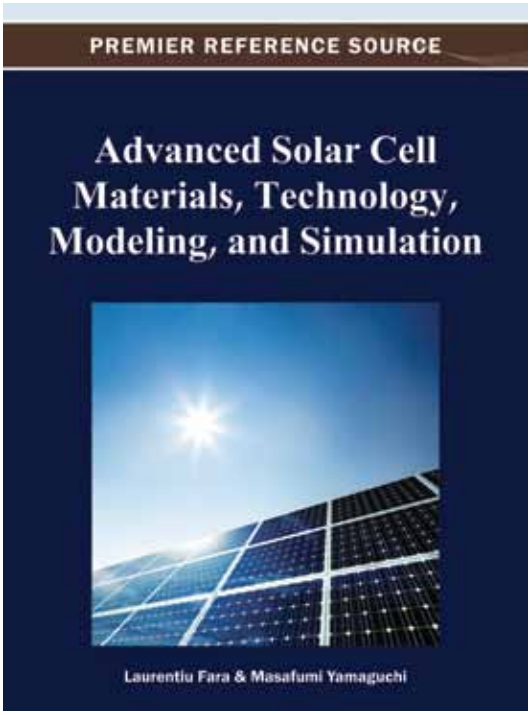
Advanced Solar Cell Materials, Technology, Modeling, and Simulation



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Laurentiu Fara (Polytechnic University of Bucharest, Romania)

While measuring the effectiveness of solar cell materials may not always be practical once a device has been created, solar cell modeling may allow researchers to obtain prospective analyses of the internal processes of potential materials prior to their manufacture.

Advanced Solar Cell Materials, Technology, Modeling, and Simulation discusses the development and use of modern solar cells made from composite materials. This volume is targeted toward experts from universities and research organizations (engineers, physicists, chemists) as well as young professionals (engineers, physicists, chemists, PhD students, master students) interested in pursuing different subjects regarding advanced solar cells.

Topics Covered:

- Solar Cell Modeling
- Photovoltaic Conversion
- Quantum well solar cells
- Energy Efficiency
- Quantum Dot Solar Cells
- Dye-sensitized solar cells
- Polymer solar cells
- Quantum Efficiency (QE) and I-V
- Organic solar cells
- Alternative Fuel Sources

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Laurentiu Fara is Professor at Physics Department, Faculty of Applied Sciences, Polytechnic University of Bucharest, Romania. He received his PhD from Institute of Atomic Physics, Bucharest, Romania in 1987. His research focused on PV cells and systems, as well as on Solar Thermal systems. He also worked in the modelling and simulation of advanced solar cells, namely Quantum Well Solar Cells, Polymer Solar Cells and Dye Solar Cells. He received the Romanian Academy Award in Physics for his activity in Solar Energy in 1987. He is the Chairman of Romania ISES Section. He contributed in several research and training projects funded, both by European and National Programmes. In 2008, he was the chairman of the Scientific Committee of the International Workshop dedicated to "New Trends in Photovoltaics", organized in Bucharest, Romania. He is member of Academy of Romanian Scientists.

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