

Graphene Based Perovskite **Solar Cells**



The Rise of Emerging Photovoltaic Technology

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Graphene-Based Perovskite Solar Cells: The Rise of Emerging Photovoltaic Technology explores the transformative potential of graphene in revolutionising solar energy. This book examines the fundamental principles of perovskite solar cells (PSCs), their challenges, and how graphene's unique properties can enhance performance, efficiency, and stability. By addressing issues such as material degradation, improving charge transport, and enabling flexible solar cells, graphene's role in PSCs is set to drive the next generation of renewable energy solutions. Written for professionals and enthusiasts, the book highlights the latest advancements in graphene integration, offering insights into the industrialisation and commercialisation of PSC technology. Whether you are a researcher, engineer, or energy enthusiast, this comprehensive resource provides an in-depth understanding of the future of solar energy.



Nur Ezyanie Safie is a lecturer at the Faculty of Electrical Technology and Engineering, Universiti Teknikal Malaysia Melaka (UTeM). She earned her Ph.D. in 2023 from UTeM, and her Master's and Bachelor's degrees from Universiti Kebangsaan Malaysia and Universiti Putra Malaysia, respectively. Dr. Ezyanie's research focuses on advanced materials, particularly in the development and optimisation of graphene-based technologies for energy storage and photovoltaic applications. Her work has been published in reputable journals, and she is actively involved in multiple research grants, including projects on lithium-ion batteries and perovskite solar cells. Additionally, she has contributed to book chapters related to sustainable energy materials. Her dedication to research and teaching is complemented by her Lembaga Teknologi Malaysia (MBOT) membership, reflecting her commitment to professional excellence and innovation in the field.



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TABLE OF CONTENTS



CHAPTER 1 Introduction To Solar Energy Conversion	1
Introduction	1
Generation of solar cells	2
1 st generation solar cells	3
2 nd generation solar cells	6
3 rd generation solar cells	9
 CHAPTER 2 Perovskite Solar Cells (PSCs)	 13
PSCs' device architecture	13
Perovskite materials	15
Electron transport layer (ETL)	18
Hole transport layer (HTL)	20
Electrode	21
Working principle of PSCs	23
 CHAPTER 3 Challenge Faced By PSCs	 27
Limitations of Perovskite Material	29
Limitations of Electrodes	31
Humidity Effect on PSCs Performance	34
Performance and Device Stability	36

CHAPTER 4 UNIQUENESS OF GRAPHENE	41
Graphene: The Material of a Thousand Possibilities	43
Expanding the Graphene Family: Derivatives and Modifications ...	46
Forging Graphene: Synthesis and Characterization	50
The Unparalleled Attributes of Graphene: A Tapestry of Potential	54
 CHAPTER 5 GRAPHENE'S ROLE IN PSCs.....	 59
Perovskite Nucleation via Graphene Integration.....	61
Effect of Graphene in the Charge Transport Layers	64
Graphene as an Alternative for Noble Electrodes	67
 CHAPTER 6 GRAPHENE IN FLEXIBLE PSCs	 71
Graphene: The Catalyst for Flexible PSC Innovations.....	73
Graphene Integration: A Quantum Leap in	
Flexible PSC Performance	76
Future Prospects of Graphene-Enhanced Flexible PSCs	79
 CHAPTER 7 TOWARDS INDUSTRIALIZATION OF PSCs	 83
Graphene for PSCs Commercialization	85
Summary: Graphene's Pivotal Role in the Rise of PSCs.....	89
 REFERENCES	 93
INDEX	107