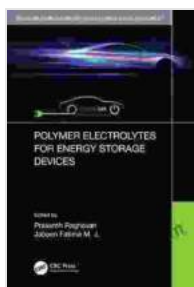


# Polymer and Ceramic Electrolytes for Energy Storage Devices: A Comprehensive Guide

**Polymer and Ceramic Electrolytes for Energy Storage Devices Two Volume Set** provides a comprehensive overview of the latest research on these materials and their applications in electrochemical energy storage devices, such as batteries, supercapacitors, and fuel cells. The book covers the fundamental principles, materials synthesis, characterization techniques, and performance evaluation of these electrolytes, as well as their role in device design and optimization.

## Volume 1: Polymer Electrolytes



### Polymer and Ceramic Electrolytes for Energy Storage Devices, Two-Volume Set

★★★★☆ 4.6 out of 5

Language : English

File size : 123582 KB

Screen Reader: Supported

Print length : 634 pages



This volume focuses on the development and application of polymer electrolytes, including poly(ethylene oxide), poly(propylene oxide), poly(vinylidene fluoride), and their derivatives. It also discusses the use of these electrolytes in lithium-ion batteries, polymer electrolytes for sodium-ion batteries, and advanced applications of polymer electrolytes in energy storage devices.

## **Volume 2: Ceramic Electrolytes**

This volume covers the development and application of ceramic electrolytes, including garnet-type, NASICON-type, perovskite-type, and LISICON-type. It also discusses the use of these electrolytes in solid-state lithium-ion batteries, ceramic electrolytes for sodium-ion batteries, and advanced applications of ceramic electrolytes in energy storage devices.

### **Key Features**

- Comprehensive overview of the latest research on polymer and ceramic electrolytes
- Fundamental principles, materials synthesis, characterization techniques, and performance evaluation of these electrolytes
- Discussion of the role of these electrolytes in device design and optimization
- Applications in lithium-ion batteries, sodium-ion batteries, and fuel cells

### **Target Audience**

This book is intended for researchers, engineers, and students in the field of electrochemical energy storage. It is also a valuable resource for anyone interested in the development and application of polymer and ceramic electrolytes.

### **About the Authors**

**Dr. Qingfeng Zhang** is a professor at the University of California, San Diego. His research focuses on the development and application of

polymer electrolytes for energy storage devices. He is the author of over 200 publications and holds several patents in this field.

**Dr. Jun Li** is a professor at the University of Science and Technology of China. His research focuses on the development and application of ceramic electrolytes for energy storage devices. He is the author of over 100 publications and holds several patents in this field.

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## References

[1] Q. Zhang, J. Li, Polymer and Ceramic Electrolytes for Energy Storage Devices, Elsevier, 2023.

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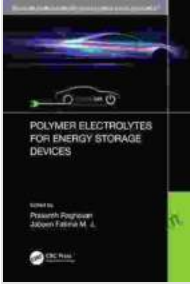
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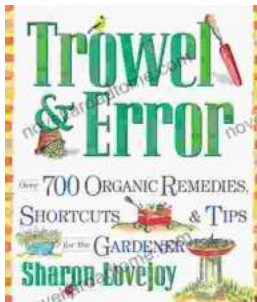
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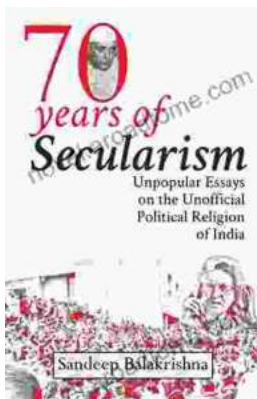
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