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Autore	Arora Ashish
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Nota di contenuto	EV BATTERIES, CHARGERS,AND SUBSYSTEMS -- Contents -- Preface -- 1 Introduction -- 1.1Li-ion Batteries -- 1.2 Chargers -- 1.3Motors -- 1.4Power Converters -- 1.5 Advanced Driver Assistance Systems -- 1.6Standards and Regulations -- References -- 2 Lithium-Ion Cells -- 2.1Li-Ion Cell Operation -- 2.2Cell Types -- 2.2.1Prismatic Cells -- 2.2.2Cylindrical Cells -- 2.2.3Pouch Cells -- 2.3Li-Ion Cell Manufacturing Process -- 2.3.1Electrode Manufacturing -- 2.3.2Cell Assembly -- 2.3.3Cell Finishing -- 2.4Cell Cycle Life and End-of-Life Consideration -- 2.4.1Cycle Life -- 2.4.2Calendar Aging -- 2.4.3End of Life -- 2.5Thermal Runaway in Li-Ion Cells -- 2.6 Other Power Sources -- 2.6.1Fuel Cells -- 2.6.2Solid-State Batteries -- 2.7Li-Ion Cell Abuse Testing
Sommario/riassunto	This book provides a comprehensive exploration of electric vehicle (EV) technology, focusing on lithium-ion batteries, chargers, and subsystems that form the core of modern EVs. It offers detailed insights into the operation, design, and manufacturing processes of Li-ion cells, as well as their applications in EVs. The book discusses battery thermal management, functional safety requirements, state-of-charge algorithms, and recycling considerations. It also examines charger types, motor technologies, and power converters essential for

EV functionality. Advanced driver assistance systems (ADAS) and industry standards and regulations related to EVs are thoroughly addressed. Written for engineers, researchers, and professionals in power engineering and EV technology, the book aims to enhance understanding of the components and systems driving the transition to sustainable transportation.