Record Nr. UNINA9910557598003321 Autore Tudoroiu Nicolae Titolo Battery Management Systems of Electric and Hybrid Electric Vehicles Pubbl/distr/stampa Basel, Switzerland, : MDPI - Multidisciplinary Digital Publishing Institute, 2021 1 electronic resource (146 p.) Descrizione fisica Soggetti Technology: general issues Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia The topics of interest in this book include significant challenges in the Sommario/riassunto BMS design of EV/HEV. The equivalent models developed for several types of integrated Li-ion batteries consider the environmental temperature and ageing effects. Different current profiles for testing the robustness of the Kalman filter type estimators of the battery state of charge are used in this book. Additionally, the BMS can integrate a real-time model-based sensor Fault Detection and Isolation (FDI) scheme for a Li-ion cell undergoing degradation, which uses the recursive least squares (RLS) method to estimate the equivalent circuit model (ECM) parameters. This book will fully meet the demands of a large community of readers and specialists working in the field due to its attractiveness and scientific content with a great openness to the side of practical applicability. This covers various interesting aspects, especially related to the characterization of commercial batteries, diagnosis and optimization of their performance, experimental testing

the state of charge

and statistical analysis, thermal modelling, and implementation of the most suitable Kalman filter type estimators of high accuracy to estimate