

1. Record Nr.	UNINA9910347052803321
Autore	Ender Moses
Titolo	Mikrostrukturelle Charakterisierung, Modellentwicklung und Simulation poroser Elektroden für Lithiumionenzellen
Pubbl/distr/stampa	KIT Scientific Publishing, 2014
ISBN	1000040284
Descrizione fisica	1 online resource (VII, 218 p. p.)
Collana	Schriften des Instituts für Werkstoffe der Elektrotechnik, Karlsruher Institut für Technologie / Institut für Werkstoffe der Elektrotechnik
Lingua di pubblicazione	Tedesco
Formato	Materiale a stampa
Livello bibliografico	Monografia
Sommario/riassunto	Electrode microstructures of a high energy and a high power lithium-ion cell were analyzed in 3D using tomographic methods. Calculation of structural parameters enabled a quantitative comparison of the electrodes. To simulate their electrochemical behavior a finite element model was developed which, for the first time, includes a real particle size distribution. This allowed for an identification of the limiting mechanisms during charging and discharging in the electrodes of both cells.