

1. Record Nr.	UNINA9910795160403321
Autore	Thum Peter <1983->
Titolo	Algebraic multigrid for the multi-ion transport and reaction model : a physics-aware approach // Peter Thum
Pubbl/distr/stampa	Berlin : , : Logos Verlag, , [2012] ©2012
ISBN	3-8325-9151-6
Descrizione fisica	1 online resource (232 pages)
Disciplina	519.4
Soggetti	Multigrid methods (Numerical analysis)
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	PublicationDate: 20130111
Nota di bibliografia	Includes bibliographical references.
Sommario/riassunto	Long description: The multi-ion transport and reaction model (MITReM) is used to simulate electrochemical processes. The governing partial differential equations (PDEs) are discretized in space by a combined finite element and residual-distribution scheme. The discrete system is linearized with Newton's method which results in a series of linear systems. The focus of this work is on the development of a stable and efficient point-based algebraic multigrid (PAMG) method for the solution of the linear systems which arise in the MITReM simulation.