1. Record Nr. UNINA9910367566803321 Autore Rabczuk Timon **Titolo** Computational Methods of Multi-Physics Problems MDPI - Multidisciplinary Digital Publishing Institute, 2019 Pubbl/distr/stampa **ISBN** 3-03921-418-7 Descrizione fisica 1 online resource (128 p.) Soggetti History of engineering and technology Lingua di pubblicazione Inglese **Formato** Materiale a stampa Monografia Livello bibliografico This book offers a collection of six papers addressing problems Sommario/riassunto associated with the computational modeling of multi-field problems. Some of the proposed contributions present novel computational techniques, while other topics focus on applying state-of-the-art techniques in order to solve coupled problems in various areas including the prediction of material failure during the lithiation process, which is of major importance in batteries; efficient models for flexoelectricity, which require higher-order continuity; the prediction of composite pipes under thermomechanical conditions; material failure in rock; and computational materials design. The latter exploits nanoscale modeling in order to predict various material properties for twodimensional materials with applications in, for example,

semiconductors. In summary, this book provides a good overview of

the computational modeling of different multi-field problems.