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Titolo	Thermo-Hydro-Mechanical-Chemical Processes in Fractured Porous Media: Modelling and Benchmarking : From Benchmarking to Tutoring / / edited by Olaf Kolditz, Thomas Nagel, Hua Shao, Wenqing Wang, Sebastian Bauer
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2018
ISBN	3-319-68225-3
Edizione	[1st ed. 2018.]
Descrizione fisica	1 online resource (310 pages)
Collana	Terrestrial Environmental Sciences, , 2363-6181
Disciplina	550
Soggetti	Geotechnical engineering Engineering geology Engineering—Geology Foundations Hydraulics Environmental sciences Hydrogeology Physics Geotechnical Engineering & Applied Earth Sciences Geoengineering, Foundations, Hydraulics Math. Appl. in Environmental Science Numerical and Computational Physics, Simulation
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	1 Introduction.- 2 H Processes -- 3 M Processes.- 4 T Processes.- 5 HH Processes -- 6 H2 Processes.- 7 HT (Convection) Processes.- 8 HM Processes.- 9 TM Processes.- 10 THM Processes -- 11 RTM Processes. - 12 THC-Processes.
Sommario/riassunto	The book comprises the 3rd collection of benchmarks and examples for porous and fractured media mechanics. Analysis of thermo-hydro-mechanical-chemical (THMC) processes is essential to a wide area of applications in environmental engineering, such as geological waste

deposition, geothermal energy utilization (shallow and deep systems), carbon capture and storage (CCS) as well as water resources management and hydrology. In order to assess the feasibility, safety as well as sustainability of geoenvironmental applications, model-based simulation is the only way to quantify future scenarios. This charges a huge responsibility concerning the reliability of conceptual models and computational tools. Benchmarking is an appropriate methodology to verify the quality and validate the concept of models based on best practices. Moreover, benchmarking and code comparison are building strong community links. The 3rd THMC benchmark book also introduces benchmark-based tutorials, therefore the subtitle is selected as “From Benchmarking to Tutoring”. The benchmark book is part of the OpenGeoSys initiative - an open source project to share knowledge and experience in environmental analysis and scientific computation. The new version of OGS-6 is introduced and first benchmarks are presented therein (see appendices).