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Titolo	Modeling Phenomena of Flow and Transport in Porous Media / / by Jacob Bear
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Collana	Theory and Applications of Transport in Porous Media, , 0924-6118 ; ; 31
Disciplina	620.1064
Soggetti	Hydrogeology Fossil fuels Hydrology Thermodynamics Heat engineering Heat - Transmission Mass transfer Differential equations, Partial Environmental sciences Fossil Fuels (incl. Carbon Capture) Hydrology/Water Resources Engineering Thermodynamics, Heat and Mass Transfer Partial Differential Equations Environmental Science and Engineering
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
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Nota di contenuto	Porous Media -- Some Elements of Thermodynamics -- Fundamental Balance Equations and Fluxes -- Momentum Balance and Motion Equations -- Modeling Single-Phase Mass Transport -- Modeling Multiphase Mass Transport -- Modeling Transport of Chemical Species -- Modeling Energy and Mass Transport -- Poromechanics and Deformation.
Sommario/riassunto	This book presents and discusses the construction of mathematical

models that describe phenomena of flow and transport in porous media as encountered in civil and environmental engineering, petroleum and agricultural engineering, as well as chemical and geothermal engineering. The phenomena of transport of extensive quantities, like mass of fluid phases, mass of chemical species dissolved in fluid phases, momentum and energy of the solid matrix and of fluid phases occupying the void space of porous medium domains are encountered in all these disciplines. The book, which can also serve as a text for courses on modeling in these disciplines, starts from first principles and focuses on the construction of well-posed mathematical models that describe all these transport phenomena.