1. **Record Nr.**   UNINA990003064760403321

   Autore   Faucci, Riccardo

   Titolo   L'economista scomodo : vita e opere di Francesco Ferrara / Riccardo Faucci

   Pubbl/distr/stampa   Palermo : Sellerio, 1995

   ISBN   88-389-1125-8

   Descrizione fisica   313 p. ; 21 cm

   Collana   La nuova diagonale ; 8

   Locazione   SES

   Collocazione   D/0.2 FAU

   Lingua di pubblicazione   Italiano

   Formato   Materiale a stampa

   Livello bibliografico   Monografia

2. **Record Nr.**   UNINA9910299785103321

   Autore   Augustin Matthias Albert

   Titolo   A Method of Fundamental Solutions in Poroelasticity to Model the Stress Field in Geothermal Reservoirs / / by Matthias Albert Augustin

   Pubbl/distr/stampa   Cham : , : Springer International Publishing : , : Imprint : Birkhäuser, , 2015

   ISBN   3-319-17079-1

   Edizione   [1st ed. 2015.]

   Descrizione fisica   1 online resource (245 p.)

   Collana   Lecture Notes in Geosystems Mathematics and Computing, , 2730-5996

   Disciplina   510

   Soggetti   Differential equations, Partial
   Numerical analysis
   Geophysics
   Partial Differential Equations
   Numerical Analysis
   Geophysics/Geodesy

   Lingua di pubblicazione   Inglese

   Formato   Materiale a stampa

   Livello bibliografico   Monografia

Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	1.Introduction -- 2. Preliminaries -- 3. Physical and Mathematical Foundation -- 4. Boundary Layer Potentials in Poroelasticity -- 5. Methods of Fundamental Solutions in Poroelasticity -- 6. Numerical Results -- 7. Conclusion and Outlook -- A. Fundamental Stresses and Fluid Velocities -- Bibliography.
Sommario/riassunto	This monograph focuses on the numerical methods needed in the context of developing a reliable simulation tool to promote the use of renewable energy. One very promising source of energy is the heat stored in the Earth's crust, which is harnessed by so-called geothermal facilities. Scientists from fields like geology, geo-engineering, geophysics and especially geomathematics are called upon to help make geothermics a reliable and safe energy production method. One of the challenges they face involves modeling the mechanical stresses at work in a reservoir. The aim of this thesis is to develop a numerical solution scheme by means of which the fluid pressure and rock stresses in a geothermal reservoir can be determined prior to well drilling and during production. For this purpose, the method should (i) include poroelastic effects, (ii) provide a means of including thermoelastic effects, (iii) be inexpensive in terms of memory and computational power, and (iv) be flexible with regard to the locations of data points. After introducing the basic equations and their relations to more familiar ones (the heat equation, Stokes equations, Cauchy-Navier equation), the "method of fundamental solutions" and its potential value concerning our task are discussed. Based on the properties of the fundamental solutions, theoretical results are established and numerical examples of stress field simulations are presented to assess the method's performance. The first-ever 3D graphics calculated for these topics, which neither requiring meshing of the domain nor involving a time-stepping scheme, make this a pioneering volume.