

1. Record Nr.	UNINA9910141300103321
Autore	Herrera Ismael
Titolo	Mathematical modeling in science and engineering [[electronic resource] ] : an axiomatic approach // Ismael Herrera, George F. Pinder
Pubbl/distr/stampa	Hoboken, N.J., : Wiley, 2012
ISBN	1-280-59115-3 9786613620989 1-118-20722-X 1-118-20723-8 1-118-20720-3
Edizione	[1st ed.]
Descrizione fisica	1 online resource (259 p.)
Classificazione	TEC009000
Altri autori (Persone)	PinderGeorge Francis <1942->
Disciplina	501/.51
Soggetti	System analysis - Mathematical models Science - Mathematical models Engineering - Mathematical models Electronic books.
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 and index.
Nota di contenuto	MATHEMATICAL MODELING IN SCIENCE AND ENGINEERING: An Axiomatic Approach; CONTENTS; Preface; 1 AXIOMATIC FORMULATION OF THE BASIC MODELS; 1.1 Models; 1.2 Microscopic and macroscopic physics; 1.3 Kinematics of continuous systems; 1.3.1 Intensive properties; 1.3.2 Extensive properties; 1.4 Balance equations of extensive and intensive properties; 1.4.1 Global balance equations; 1.4.2 The local balance equations; 1.4.3 The role of balance conditions in the modeling of continuous systems; 1.4.4 Formulation of motion restrictions by means of balance equations; 1.5 Summary; Exercises; References 2 MECHANICS OF CLASSICAL CONTINUOUS SYSTEMS2.1 One-phase systems; 2.2 The basic mathematical model of one-phase systems; 2.3 The extensive/intensive properties of classical mechanics; 2.4 Mass conservation; 2.5 Linear momentum balance; 2.6 Angular momentum balance; 2.7 Energy concepts; 2.8 The balance of kinetic energy; 2.9 The balance of internal energy; 2.10 Heat equivalent of mechanical

work; 2.11 Summary of basic equations for solid and fluid mechanics; 2.12 Some basic concepts of thermodynamics; 2.12.1 Heat transport; 2.13 Summary; Exercises; References

3 MECHANICS OF NON-CLASSICAL CONTINUOUS SYSTEMS3.1 Multiphase systems; 3.2 The basic mathematical model of multiphase systems; 3.3 Solute transport in a free fluid; 3.4 Transport by fluids in porous media; 3.5 Flow of fluids through porous media; 3.6 Petroleum reservoirs: the black-oil model; 3.6.1 Assumptions of the black-oil model; 3.6.2 Notation; 3.6.3 Family of extensive properties; 3.6.4 Differential equations and jump conditions; 3.7 Summary; Exercises; References; 4 SOLUTE TRANSPORT BY A FREE FLUID; 4.1 The general equation of solute transport by a free fluid; 4.2 Transport processes 4.2.1 Advection4.2.2 Diffusion processes; 4.3 Mass generation processes; 4.4 Differential equations of diffusive transport; 4.5 Well-posed problems for diffusive transport; 4.5.1 Time-dependent problems; 4.5.2 Steady state; 4.6 First-order irreversible processes; 4.7 Differential equations of non-diffusive transport; 4.8 Well-posed problems for non-diffusive transport; 4.8.1 Well-posed problems in one spatial dimension; 4.8.2 Well-posed problems in several spatial dimensions; 4.8.3 Well-posed problems for steady-state models; 4.9 Summary; Exercises; References

5 FLOW OF A FLUID IN A POROUS MEDIUM5.1 Basic assumptions of the flow model; 5.2 The basic model for the flow of a fluid through a porous medium; 5.3 Modeling the elasticity and compressibility; 5.3.1 Fluid compressibility; 5.3.2 Pore compressibility; 5.3.3 The storage coefficient; 5.4 Darcy's law; 5.5 Piezometric level; 5.6 General equation governing flow through a porous medium; 5.6.1 Special forms of the governing differential equation; 5.7 Applications of the jump conditions; 5.8 Well-posed problems; 5.8.1 Steady-state models; 5.8.2 Time-dependent problems

5.9 Models with a reduced number of spatial dimensions

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## Sommario/riassunto

A powerful, unified approach to mathematical and computational modeling in science and engineering Mathematical and computational modeling makes it possible to predict the behavior of a broad range of systems across a broad range of disciplines. This text guides students and professionals through the axiomatic approach, a powerful method that will enable them to easily master the principle types of mathematical and computational models used in engineering and science. Readers will discover that this axiomatic approach not only enables them to systematically construct effective models,

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2. Record Nr.	UNINA9910813662203321
Autore	Scherer Matthew <1977->
Titolo	Beyond church and state : democracy, secularism, and conversion / / Matthew Scherer [[electronic resource]]
Pubbl/distr/stampa	Cambridge : , : Cambridge University Press, , 2013
ISBN	1-107-23648-7 1-139-61075-9 1-139-60903-3 1-139-62563-2 1-139-61261-1 1-139-61633-1 1-299-39999-1 1-139-62191-2 1-139-19926-9
Descrizione fisica	1 online resource (x, 240 pages) : digital, PDF file(s)
Collana	Religion, politics, and democracy
Classificazione	POL010000
Disciplina	322/.1
Soggetti	Secularism Religion and politics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Title from publisher's bibliographic system (viewed on 05 Oct 2015).
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Introduction: beyond the separation of church and state: secularism as conversion -- 1. The authorized narrative and crystalline structure of conversion in Augustine's Confessions -- 2. Toleration and conversion in Locke's letters: it is 'above all things necessary to distinguish' -- 3. The crystalline structure of conversion: Henri Bergson's Two Sources -- 4. Saint John (Rawls): the miracle of secular reason -- 5. The wish for a better life: Stanley Cavell's critique of the social contract -- Conclusion: from Supernovas into The Deep: secularism as conversion, a conversion of secularism.
Sommario/riassunto	Secularism is often imagined in Thomas Jefferson's words as 'a wall of separation between Church and State'. This book moves past that standard picture to argue that secularism is a process that reshapes both religion and politics. Borrowing a term from religious traditions,

the book goes further to argue that this process should be understood as a process of conversion. Matthew Scherer studies Saint Augustine, John Locke, John Rawls, Henri Bergson and Stanley Cavell to present a more accurate picture of what secularism is, what it does, and how it can be reimagined to be more conducive to genuine democracy.

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