

1. Record Nr.	UNINA9911019884303321
Autore	Bonilla L. L (Luis Lopez), <1956->
Titolo	Nonlinear wave methods for charge transport // Luis L. Bonilla and Stephen W. Teitsworth
Pubbl/distr/stampa	Weinheim, : Wiley-VCH Verlag GmbH, c2010
ISBN	9786612472282 9781282472280 1282472283 9783527628674 3527628673 9783527628681 3527628681
Descrizione fisica	1 online resource (290 p.)
Altri autori (Persone)	TeitsworthStephen Winthrop
Disciplina	530.15
Soggetti	Nonlinear theories Charge transfer
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	Nonlinear Wave Methods for Charge Transport; Contents; Preface; Acknowledgments; 1 Introduction; 1.1 Overview of Nonlinear Wave Phenomena; 1.2 Nonlinear Waves and Electronic Transport in Materials; 1.3 Structural Outline of the Book; 2 Dynamical Systems, Bifurcations, and the Chapman-Enskog Method; 2.1 Introduction; 2.2 Review of Dynamical Systems Concepts; 2.2.1 Attractors; 2.2.2 Bifurcations - Basic Definitions and Types; 2.3 Analysis of the Hopf Bifurcation:An Introduction to the Chapman--Enskog Method; 2.3.1 Multiple Scales and Chapman-Enskog Methods 2.3.2 General Formulation of the Hopf Problem Using CEM2.3.3 Utility of the CEM for Higher Order Bifurcations; 3 Excitable Media I: Continuum Systems; 3.1 Introduction; 3.2 Basic Excitability - the FitzHugh-Nagumo System; 3.3 Matched Asymptotics: Excitability and Oscillations; 3.4 The Scalar Bistable Equation; Wave Pulses as Heteroclinic Connections; 3.4.1 Wave Fronts Near $w=w_0$ and a Formula for $dc/dw$ ; 3.4.2 Wave Fronts for a Cubic Source; 3.4.3 Linear Stability

of the Wave Fronts; 3.5 Traveling Waves of the FitzHugh-Nagumo System; 3.5.1 Wave Fronts; 3.5.2 Pulses of the FHN System 3.5.3 Wave Trains 4 Excitable Media II: Discrete Systems; 4.1 Introduction; 4.2 The Spatially Discrete Nagumo Equation; 4.2.1 Depinning Transition of Wave Fronts; 4.2.2 Construction of the Wave Front Profile Near the Depinning Transition; 4.2.3 Wave Front Velocity Far from the Depinning Transition; 4.3 Asymptotic Construction of Pulses; 4.4 Numerically Calculated Pulses; 4.5 Propagation Failure; 4.6 Pulse Generation at a Boundary; 4.7 Concluding Remarks; 5 Electronic Transport in Condensed Matter: From Quantum Kinetics to Drift-diffusion Models; 5.1 Introduction 5.1.1 Wigner Function for Non-interacting Particles in an External Potential 5.1.2 Classical Limit; 5.1.3 Boltzmann Transport Equation and BGK Collision Model; 5.1.4 Parabolic Scaling; 5.1.5 Derivation of a Drift-Diffusion Equation; 5.2 Superlattices; 5.2.1 Kinetic Theory Description of a Superlattice with a Single Populated Miniband; 5.2.2 Derivation of Reduced Equations for  $n$  and  $F$ ; 5.3 Concluding Remarks; 6 Electric Field Domains in Bulk Semiconductors I: the Gunn Effect; 6.1 Introduction; 6.2 N-shaped Current-Field Characteristics and Kroemer's Model; 6.2.1 Intervalley Transfer Mechanism 6.2.2 Kroemer's Drift-Diffusion Model 6.2.3 Boundary Conditions; 6.2.4 Nondimensionalization; 6.3 Stationary Solutions and Their Linear Stability in the Limit  $L \rightarrow \infty$ ; 6.3.1 Stationary States and Their Linear Stability under Current Bias; 6.3.2 Construction of the Stationary Solution and of  $\langle J \rangle$  under Voltage Bias; 6.3.3 Linear Stability of the Stationary Solution under Voltage Bias; 6.4 Onset of the Gunn Effect; 6.4.1 The Linear Inhomogeneous Problem and Secular Terms; 6.4.2 Hopf Bifurcation; 6.4.3 Amplitude Equation for  $L \rightarrow \infty$  6.5 Asymptotics of the Gunn Effect for Long Samples and N-shaped Electron Velocity

---

Sommario/riassunto

The present book introduces and develops mathematical techniques for the treatment of nonlinear waves and singular perturbation methods at a level that is suitable for graduate students, researchers and faculty throughout the natural sciences and engineering. The practice of implementing these techniques and their value are largely realized by showing their application to problems of nonlinear wave phenomena in electronic transport in solid state materials, especially bulk semiconductors and semiconductor superlattices. The authors are recognized leaders in this field, with more than 30 combin

---

2. Record Nr.	UNINA9910299411803321
Autore	von Beyme Klaus
Titolo	From Post-Democracy to Neo-Democracy // by Klaus von Beyme
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2018
ISBN	3-319-66661-4
Edizione	[1st ed. 2018.]
Descrizione fisica	1 online resource (VI, 127 p. 17 illus.)
Collana	The Anthropocene: Politik—Economics—Society—Science, , 2367-4024 ; ; 20
Disciplina	321.8
Soggetti	Democracy Political science Political leadership Political sociology Political Theory Political Leadership Political Sociology
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references at the end of each chapters.
Nota di contenuto	The Debate on Post-democracy and the Traditions of Scenarios of Decline -- Scenarios of decline in democratic theory -- Democracy without the alternative of dictatorship? -- Criticism of Politics in the Old Media and the "Citizenship in Rage" (Wutbürgertum) in the New Media -- Citizenship in rage – a new culture of protest?
Sommario/riassunto	This book of a renowned political scientist and specialist in political theory fundamentally challenges the new fashion of Post-democracy by offering an outlook on 'Neo-democracy'. The political periods are similar to epochs in modern art, where 'neo' succeeded Post-impressionism and Post-expressionism. This book reviews the topical debate on postdemocracy and scenarios of decline in democratic theory without the alternative of dictatorship. It discusses criticism of politics in the old and new media and a new culture of protest. It addresses new forms of participation and the dangers of populism and right-wing extremism. It proposes institutional reforms of democracy, of the parliamentary system and the party state, in negotiations of coalition-

building, in governmental declarations and for the policy output. The book concludes with a debate of normative models of democracy from 'Post-democracy' to 'Neo-democracy', models of justice and theories of democratic reform.

---