

1. Record Nr.	UNISALENTO991002501529707536
Titolo	Nonautonomous dynamical systems in the life sciences [e-book] / edited by Peter E. Kloeden, Christian Pötzsche
Pubbl/distr/stampa	Cham : Springer, 2013
ISBN	9783319030807
Descrizione fisica	1 online resource (xviii, 314 p.)
Collana	Lecture Notes in Mathematics, 1617-9692 ; 2102
Classificazione	AMS 37B55 AMS 37H AMS 92-XX
Altri autori (Persone)	Kloeden, Peter E. Pötzsche, Christian
Disciplina	515
Soggetti	Differentiable dynamical systems Genetics - Mathematics Dynamical systems and ergodic theory Mathematical and computational biology Genetics and population dynamics
Lingua di pubblicazione	Inglese
Formato	Risorsa elettronica
Livello bibliografico	Monografia

2. Record Nr.	UNINA9910777310303321
Autore	Tleis Nasser D
Titolo	Power systems modelling and fault analysis [[electronic resource]] : theory and practice // Nasser D. Tleis
Pubbl/distr/stampa	Oxford ; ; Burlington, MA, : Newnes, 2008
ISBN	1-281-07149-8 9786611071493 0-08-055427-X
Edizione	[1st edition]
Descrizione fisica	1 online resource (650 p.)
Collana	Newnes power engineering series
Disciplina	621.31015118
Soggetti	Electric power system stability - Mathematical models Electric fault location - Mathematical models
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	Front cover; Power systems modelling and fault analysis; Copyright page; Contents; List of electrical symbols; Foreword; Preface; Biography; Chapter 1 Introduction to power system faults; 1.1 General; 1.2 Structure of power systems; 1.3 Need for power system fault analysis; 1.3.1 General; 1.3.2 Health and safety considerations; 1.3.3 Design, operation and protection of power systems; 1.3.4 Design of power system equipment; 1.4 Characteristics of power system faults; 1.4.1 Nature of faults; 1.4.2 Types of faults; 1.4.3 Causes of faults; 1.4.4 Characterisation of faults 1.5 Terminology of short-circuit current waveform and current interruption 1.6 Effects of short-circuit currents on equipment; 1.6.1 Thermal effects; 1.6.2 Mechanical effects; 1.7 Per-unit analysis of power systems; 1.7.1 General; 1.7.2 Single-phase systems; 1.7.3 Change of base quantities; 1.7.4 Three-phase systems; 1.7.5 Mutually coupled systems having different operating voltages; 1.7.6 Examples; Chapter 2 Theory of symmetrical components and connection of phase sequence networks during faults; 2.1 General; 2.2 Symmetrical components of a three-phase power system 2.2.1 Balanced three-phase voltage and current phasors 2.2.2 Symmetrical components of unbalanced voltage or current phasors; 2.2.3 Apparent power in symmetrical component terms; 2.2.4

Definition of phase sequence component networks; 2.2.5 Sequence components of unbalanced three-phase impedances; 2.2.6 Sequence components of balanced three-phase impedances; 2.2.7 Advantages of symmetrical components frame of reference; 2.2.8 Examples; 2.3 Analysis of balanced and unbalanced faults in the sequence reference frame; 2.3.1 General; 2.3.2 Balanced three-phase to earth short-circuit faults
2.3.3 Balanced three-phase clear of earth short-circuit faults 2.3.4 Unbalanced one-phase to earth short-circuit faults; 2.3.5 Unbalanced phase-to-phase or two-phase short-circuit faults; 2.3.6 Unbalanced two-phase to earth short-circuit faults; 2.3.7 Unbalanced one-phase open-circuit faults; 2.3.8 Unbalanced two-phase open-circuit faults; 2.3.9 Example; 2.4 Fault analysis and choice of reference frame; 2.4.1 General; 2.4.2 One-phase to earth short-circuit faults; 2.4.3 Two-phase to earth short-circuit faults; 2.5 Analysis of simultaneous faults; 2.5.1 General
2.5.2 Simultaneous short-circuit faults at the same location 2.5.3 Cross-country faults or simultaneous faults at different locations; 2.5.4 Simultaneous open-circuit and short-circuit faults at the same location; 2.5.5 Simultaneous faults caused by broken and fallen to earth conductors; 2.5.6 Simultaneous short-circuit and open-circuit faults on distribution transformers; Further reading; Chapter 3 Modelling of multi-conductor overhead lines and cables; 3.1 General; 3.2 Phase and sequence modelling of three-phase overhead lines; 3.2.1 Background 3.2.2 Overview of the calculation of overhead line parameters

Sommario/riassunto

This book provides a comprehensive practical treatment of the modelling of electrical power systems, and the theory and practice of fault analysis of power systems covering detailed and advanced theories as well as modern industry practices. The continuity and quality of electricity delivered safely and economically by today's and future's electrical power networks are important for both developed and developing economies. The correct modelling of power system equipment and correct fault analysis of electrical networks are pre-requisite to ensuring safety and they play a critical role
