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Nota di bibliografia	Includes bibliographical references at the end of each chapters and index.
Nota di contenuto	Preface -- 1 On the history of differential-algebraic equations: a retrospective with personal side trips -- 2 DAE modelling of mechanical multibody systems: a survey -- 3) Model reduction for DAEs: a survey -- 4 Observability of linear differential-algebraic systems: a survey -- 5 A survey on numerical methods for the simulation of initial value problems with DAEs -- Index.
Sommario/riassunto	The present volume comprises survey articles on various fields of Differential-Algebraic Equations (DAEs) which have widespread applications in controlled dynamical systems, especially in mechanical and electrical engineering and a strong relation to (ordinary) differential equations. The individual chapters provide reviews, presentations of the current state of research and new concepts in - History of DAEs - DAE aspects of mechanical multibody systems - Model reduction of DAEs - Observability for DAEs - Numerical Analysis for DAEs The results are presented in an accessible style, making this book suitable not only for active researchers but also for graduate students (with a

good knowledge of the basic principles of DAEs) for self-study.
