1. Record Nr. UNISA996466557603316

Titolo	Recent advances in differential equations and control theory / / Concepcion Muriel, Carmen Perez-Martinez, editors
Pubbl/distr/stampa	Cham, Switzerland : , : Springer, , [2021] ©2021
ISBN	3-030-61875-7
Edizione	[1st ed. 2021.]
Descrizione fisica	1 online resource (X, 102 p. 77 illus., 13 illus. in color.)
Collana	ICIAM 2019 SEMA SIMAI Springer Series, , 2662-7183 ; ; 9
Disciplina	515.35
Soggetti	Differential equations Control theory Equacions diferencials Teoria de control Congressos Llibres electrònics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Numerical Simulation: J. Alonso, J. et al., The upwelling of the Colombian Caribbean Coasts: remote sensing, morphology and influence on the Lake Maracaibo -- J. Coronil, D. et al., Is it possible the use of discontinuous shapes in hydrodynamics? -- Control Theory: García-Gutiérrez, J.J et al., Stabilization of third order switched linear systems via invariant set -- Pérez, C. et al., Control of second-order switched systems with application to DC-DC converters -- Differential Equations: Mendoza, J. et al., Symbolic computation algorithms for second-order ODEs by using two -symmetries -- Ruiz, A. and Muriel, C., Systems of vector fields for the integration of ordinary differential equations.
Sommario/riassunto	This book collects the latest results and new trends in the application of mathematics to some problems in control theory, numerical simulation and differential equations. The work comprises the main results presented at a thematic minisymposium, part of the 9th International Congress on Industrial and Applied Mathematics (ICIAM 2019), held in Valencia, Spain, from 15 to 18 July 2019. The topics

covered in the 6 peer-review contributions involve applications of numerical methods to real problems in oceanography and naval engineering, as well as relevant results on switching control techniques, which can have multiple applications in industrial complexes, electromechanical machines, biological systems, etc. Problems in control theory, as in most engineering problems, are modeled by differential equations, for which standard solving procedures may be insufficient. The book also includes recent geometric and analytical methods for the search of exact solutions for differential equations, which serve as essential tools for analyzing problems in many scientific disciplines.