1. Record Nr. UNINA9910298417503321

Titolo	Filtering Media by Electrospinning : Next Generation Membranes for Separation Applications / / edited by Maria Letizia Focarete, Chiara Gualandi, Seeram Ramakrishna
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2018
ISBN	3-319-78163-4
Edizione	[1st ed. 2018.]
Descrizione fisica	1 online resource (230 pages)
Disciplina	660.284245
Soggetti	Biochemistry
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Electrospinning Technology for Filtering Membranes Fabrication -- Current Advances on Nanofiber Membranes for Water Purification Applications -- Electrospun Filters for Air Filtration: Comparison with Existing Air Filtration Technologies -- Electrospun Filters for Defense and Protective Applications -- Electrospun Filters for Heavy Metals Removal -- Electrospun Filters for Organic Pollutants Removal -- Electrospun Filters for Oil-water Separation -- Affinity Membranes for Cell Capture and Biological Substances -- Electrospun Nanofibre Filter Media – New Emergent Technologies and Market Perspectives -- Index.
Sommario/riassunto	This book covers the state-of-the-art on electrospun materials for the use of filters for water remediation, ion-exchange membranes and affinity membranes for the capture of selected chemical and biochemical species, as well as filtering applications covering air treatment, defense and protective applications, and oil-water separation. The book also provides an overview of the landscape of marketed electrospun filters and of technical approaches for the large scale production of nanofibrous non-woven filter media. This is an ideal book for biomaterials and polymer researchers interested in the applications of filtering media by electrospinning. Covers the latest research on ion-exchange membranes and affinity membranes for capture of cells and biological substances Broadens reader understanding of antimicrobial electrospun filters and sieving filters for

	liquid microfiltration Reviews exhaustively the key recent research into electrospun filters for oil-water separation, heavy metals removal, and defense and protective applications.

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Record Nr.	UNINA9910254084903321
Autore	Aschepkov Leonid T.
Titolo	Optimal Control / / by Leonid T. Aschepkov, Dmitriy V. Dolgy, Taekyun Kim, Ravi P. Agarwal
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2016
ISBN	3-319-49781-2
Edizione	[1st ed. 2016.]
Descrizione fisica	1 online resource (XV, 209 p. 55 illus.)
Disciplina	629.8312
Soggetti	Calculus of variations System theory Calculus of Variations and Optimal Control; Optimization Systems Theory, Control
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	NOTATIONS -- PREFACE -- INTRODUCTION -- 1. Subject of optimal control -- 2. Mathematical model of controlled object -- 3. Reachability set -- 4. Controllability of linear systems -- 5. Minimum time problem -- 6. Synthesis of optimal system performance -- 7. The observability problem -- 8. Identification problem -- 9. Types of optimal control problems -- 10. Small increments of a trajectory -- 11. The simplest problem of optimal control -- 12. General optimal control problem -- 13. Sufficient optimality conditions -- CONCLUSION -- APPENDIX -- EXAMPLES OF TASKS AND SOLUTIONS -- LITERATURE.
Sommario/riassunto	This book is based on lectures from a one-year course at the Far Eastern Federal University (Vladivostok, Russia) as well as on workshops on optimal control offered to students at various mathematical departments at the university level. The main themes of the theory of linear and nonlinear systems are considered, including the basic problem of establishing the necessary and sufficient conditions of

optimal processes. In the first part of the course, the theory of linear control systems is constructed on the basis of the separation theorem and the concept of a reachability set. The authors prove the closure of a reachability set in the class of piecewise continuous controls, and the problems of controllability, observability, identification, performance and terminal control are also considered. The second part of the course is devoted to nonlinear control systems. Using the method of variations and the Lagrange multipliers rule of nonlinear problems, the authors prove the Pontryagin maximum principle for problems with mobile ends of trajectories. Further exercises and a large number of additional tasks are provided for use as practical training in order for the reader to consolidate the theoretical material.