Operator Theory System Theory And Related Topics The Moshe Livesic Anniversary Volume

#operator theory #system theory #Moshe Livesic #mathematical analysis #anniversary volume

This anniversary volume celebrates the profound contributions of Moshe Livesic, offering a comprehensive exploration of Operator Theory, System Theory, and their rich array of related topics. It provides essential insights for researchers, academics, and students delving into advanced mathematical analysis, functional analysis, control theory, and the interdisciplinary applications stemming from these foundational subjects.

Operator Theory, System Theory and Related Topics

This volume presents the refereed proceedings of the Conference in Operator The ory in Honour of Moshe Livsic 80th Birthday, held June 29 to July 4, 1997, at the Ben-Gurion University of the Negev (Beer-Sheva, Israel) and at the Weizmann In stitute of Science (Rehovot, Israel). The volume contains papers in operator theory and its applications (understood in a very wide sense), many of them reflecting, 1 directly or indirectly, a profound impact of the work of Moshe Livsic. Moshe (Mikhail Samuilovich) Livsic was born on July 4, 1917, in the small town of Pokotilova near Uman, in the province of Kiev in the Ukraine; his family moved to Odessa when he was four years old. In 1933 he enrolled in the Department of Physics and Mathematics at the Odessa State University, where he became a student of M. G. Krein and an active participant in Krein's seminar - one of the centres where the ideas and methods of functional analysis and operator theory were being developed. Besides M. G. Krein, M. S. Livsic was strongly influenced B. Va. Levin, an outstanding specialist in the theory of analytic functions. A by deep understanding of operator theory as well as function theory and a penetrating search of connections between the two, were to become one of the landmarks of M. S. Livsic's work. M. S. Livsic defended his Ph. D.

Operator Theory, System Theory, and Related Topics

This volume is dedicated to Harry Dym, a leading expert in operator theory, on the occasion of his sixtieth birthday. The book opens with an autobiographical sketch, a list of publications and a personal account of I. Gohberg on his collaboration with Harry Dym. The mathematical papers cover Krein space operator theory, Schur analysis and interpolation, several complex variables and Riemann surfaces, matrix theory, system theory, and differential equations and mathematical physics. The book is of interest to a wide audience of pure and applied mathematicians, electrical engineers and theoretical physicists.

Interpolation Theory, Systems Theory and Related Topics

This volume contains a selection of papers, from experts in the area, on multidimensional operator theory. Topics considered include the non-commutative case, function theory in the polydisk, hyponormal operators, hyperanalytic functions, and holomorphic deformations of linear differential equations. Operator Theory, Systems Theory and Scattering Theory will be of interest to a wide audience of pure and applied mathematicians, electrical engineers and theoretical physicists.

Interpolation Theory, Systems Theory, and Related Topics

This is the second volume of a collection of original and review articles on recent advances and new directions in a multifaceted and interconnected area of mathematics and its applications. It encompasses many topics in theoretical developments in operator theory and its diverse applications in applied mathematics, physics, engineering, and other disciplines. The purpose is to bring in one volume many important original results of cutting edge research as well as authoritative review of recent achievements, challenges, and future directions in the area of operator theory and its applications.

American Book Publishing Record

This volume contains six peer-refereed articles written on the occasion of the workshop Operator theory, system theory and scattering theory: multidimensional generalizations and related topics, held at the Department of Mathematics of the Ben-Gurion University of the Negev in June, 2005. The book will interest a wide audience of pure and applied mathematicians, electrical engineers and theoretical physicists.

Operator Theory, Systems Theory and Scattering Theory: Multidimensional Generalizations

This volume is devoted to Joseph A. (Joe) Ball’s contributions to operator theory and its applications and in celebration of his seventieth birthday. Joe Ball’s career spans over four and a half decades, starting with his work on model theory and related topics for non-contractions and operators on multiply connected domains. Later on, more applied operator theory themes appeared in his work, involving factorization and interpolation for operator-valued functions, with extensive applications in system and control theory. He has worked on nonlinear control, time-varying systems and, more recently, on multidimensional systems and noncommutative H -theory on the unit ball and polydisk, and more general domains, and these are only the main themes in his vast oeuvre. Fourteen research papers constitute the core of this volume, written by mathematicians who have collaborated with Joe or have been influenced by his vast mathematical work. A curriculum vitae, a publications list and a list of Joe Ball’s PhD students are included in this volume, as well as personal reminiscences by colleagues and friends. Contributions by Yu. M. Arlinskii, S. Hassi, M. Augat, J. W. Helton, I. Klep, S. McCullough, S. Balasubramanian, U. Wijesooriya, N. Cohen, Q. Fang, S. Gorai, J. Sarkar, G. J. Groenewald, S. ter Horst, J. Jaftha, A. C. M. Ran, M.A. Kaashoek, F. van Schagen, A. Kheifets, Z. A. Lykova, N. J. Young, A. E. Ajibo, R. T. W. Martin, A. Ramanantoanina, M.-J. Y. Ou, H. J. Woerdeman, A. van der Schaft, A. Tannenbaum, T. T. Georgiou, J. O. Deasy and L. Norton.

Topics in Operator Theory

Transfer functions and characteristic functions proved to be key in operator theory and system theory. Moshe Livic played a major role in developing these functions, and this book of papers dedicated to his memory covers a wide variety of topics in the field.

System Theory, the Schur Algorithm and Multidimensional Analysis

Transfer functions and characteristic functions proved to be key in operator theory and system theory. Moshe Livic played a major role in developing these functions, and this book of papers dedicated to his memory covers a wide variety of topics in the field.

Interpolation and Realization Theory with Applications to Control Theory

This volume contains six peer-refereed articles written on the occasion of the workshop Operator theory, system theory and scattering theory: multidimensional generalizations and related topics, held at the Department of Mathematics of the Ben-Gurion University of the Negev in June, 2005. The book will interest a wide audience of pure and applied mathematicians, electrical engineers and theoretical physicists.

Characteristic Functions, Scattering Functions and Transfer Functions

The state space method developed in the last decades allows us to study the theory of linear systems by using tools from the theory of linear operators; conversely, it had a strong influence on operator theory introducing new questions and topics. The present volume contains a collection of essays representing some of the recent advances in the state space method. Methods covered include noncommutative systems theory, new aspects of the theory of discrete systems, discrete analogs of canonical systems, and new applications to the theory of Bezoutiants and convolution equations. The articles in the volume will be of interest to pure and applied mathematicians, electrical engineers and theoretical physicists.

Characteristic Functions, Scattering Functions and Transfer Functions

This book contains a selection of carefully refereed research papers, most of which were presented at the fourteenth International Workshop on Operator Theory and its Applications (IWOTA), held at Cagliari, Italy, from June 24-27, 2003. The papers, many of which have been written by leading experts in the field, concern a wide variety of topics in modern operator theory and applications, with emphasis on differential operators and numerical methods. The book will be of interest to a wide audience of pure and applied mathematicians and engineers.

System Theory, the Schur Algorithm and Multidimensional Analysis

This volume contains a selection of papers, from experts in the area, on multidimensional operator theory. Topics considered include the non-commutative case, function theory in the polydisk, hyponormal operators, hyperanalytic functions, and holomorphic deformations of linear differential equations. Operator Theory, Systems Theory and Scattering Theory will be of interest to a wide audience of pure and applied mathematicians, electrical engineers and theoretical physicists.

The State Space Method

This volume contains the proceedings of the Workshop on app1ications of linear operator theory to systems and networks, which was held at the Weizmann Institute of Science in the third week of June, 19S3, just be fore the MTNS Conference in Beersheva. For a 10ng time these subjects were studied indepen dent1y by mathematica1 ana1ysts and e1ectrica1 engineers. Never the1ess, in spite of the lack of communication, these two groups often deve10ped parallel theories, though in different languages, at different levels of genera1ity and typica11y quite different motivations. In the last severa1 years each side has become aware of the work of the other and there is a seeming1y ever increasing invo1vement of the abstract theories of factorization, extension and interpolation of operators (and operator/matrix va1ued functions) to the design and analysis of systems and net works. Moreover, the problems encountered in e1ectrica1 engineering have genera ted new mathematica1 problems, new approaches, and usefu1 new formu1ations. The papers contained in this volume constitute a more than representative se1ection of the presented talks and dis cussion at the workshop, and hopefu11y will also serve to give a reasonably accurate picture of the problems which are under active study today and the techniques which are used to deal with them."

Recent Advances in Operator Theory and Its Applications

This is the second volume of a collection of original and review articles on recent advances and new directions in a multifaceted and interconnected area of mathematics and its applications. It encompasses many topics in theoretical developments in operator theory and its diverse applications in applied mathematics, physics, engineering, and other disciplines. The purpose is to bring in one

volume many important original results of cutting edge research as well as authoritative review of recent achievements, challenges, and future directions in the area of operator theory and its applications.

Operator Theory, Systems Theory and Scattering Theory: Multidimensional Generalizations

Thisvolumeofthe Operator Theory: Advances and Applications series (OTAA) isthe ?rst volume of a new subseries. This subseries is dedicated to connections between the theory of linear operators and the mathematical theory of linear systems and is named Linear Operators and Linear Systems (LOLS).Asthe- isting subseries Advances in Partial Di?erential Equations (ADPE), the new s- series will continue the traditions of the OTAA series and keep the high quality of the volumes. The editors of the new subseries are: Daniel Alpay (Beer–Sheva, - rael), Joseph Ball (Blacksburg, Virginia, USA) and Andr e Ran (Amsterdam, The Netherlands). In the last 25–30 years, Mathematical System Theory developed in an ess- tial way. A large part of this development was connected with the use of the state space method. Let us mention for instance the “theory of H control”. The state ? space method allowed to introduce in system theory the modern tools of matrix and operator theory. On the other hand the state space approach had an imp- tant impact on Algebra, Analysis and Operator Theory. In particular it allowed to solve explicitly some problems from interpolation theory, theory of convolution equations, inverse problems for canonical di?erential equations and their discrete analogs. All these directions are planned to be present in the subseries LOLS. The editors and the publisher are inviting authors to submit their manuscripts for publication in this subseries.

Topics in Operator Theory Systems and Networks

This volume is devoted to some topical problems and various applications of operator theory and its interplay with modern complex analysis. 30 carefully selected surveys and research papers are united by the "operator theoretic ideology" and systematic use of modern function theoretical techniques.

Topics in Operator Theory

These 35 refereed articles report on recent and original results in various areas of operator theory and connected fields, many of them strongly related to contributions of Sz.-Nagy. The scientific part of the book is preceeded by fifty pages of biographical material, including several photos.

The State Space Method

This book contains the proceedings of the international workshop organized at the Vrije Universiteit Amsterdam in November 1997 and dedicated to the sixtieth birthday of M.A. Kaashoek, one of the leading experts in operator theory and its applications. The workshop focused on areas in mathematical and functional analysis where the ideas and results of M.A. Kaashoek played an important role. The papers of this volume cover a wide range of topics centered around factorization of matrix valued functions, interpolation theory, and spectral theory. Other papers deal with canonical systems of differential equations, operators in indefinite inner product spaces, and the effect of small delays on stability and control of partial differential equations. The book starts with biographical material and a list of publications of M.A. Kaashoek. The main part consists of original research papers, which contain new interesting results. The book will be of interest to a wide range of readers in pure and applied mathematics and engineering.

Complex Analysis, Operators, and Related Topics

The first volume of a collection of original and review articles on recent advances and new directions in a multifaceted and interconnected area of mathematics and its applications. It encompasses many topics in theoretical developments in operator theory and its diverse applications in applied mathematics, physics, engineering, and other disciplines. The purpose is to bring in one volume many important original results of cutting edge research as well as authoritative review of recent achievements, challenges, and future directions in the area of operator theory and its applications. The second volume of a collection of original and review articles on recent advances and new directions in a multifaceted and interconnected area of mathematics and its applications. It encompasses many topics in theoretical developments in operator theory and its diverse applications in applied mathematics, physics, engineering, and other disciplines. The purpose is to bring in one volume many important original results of cutting edge research as well as authoritative review of recent achievements, challenges, and future directions in the area of operator theory and its applications.

Recent Advances in Operator Theory and Related Topics

This volume contains twenty-one solicited articles by speakers at the IWOTA 2009 workshop, ranging from expository surveys to original research papers, each carefully refereed. The contributions reflect recent developments in operator theory and its applications. Consistent with the topics of recent IWOTA meetings, IWOTA 2009 was designed as a comprehensive, inclusive conference covering all aspects of theoretical and applied operator theory, ranging from classical analysis, differential and integral equations, complex and harmonic analysis to mathematical physics, mathematical systems and control theory, signal processing and numerical analysis. The conference brought together international experts for a week-long stay at Hotel Real de Minas, in an atmosphere conducive to fruitful professional interactions. These Proceedings reflect the high quality of the papers presented at the conference.

Operator Theory and Analysis

This book is de voted to some topical prob lems and various applica tions of Operator Theory and to its interplay with many other fields of analysis as modern approximation the ory, theory of dynamic sys tems, harmonic analysis and complex analysis. It consists of 20 carefully selected sur veys and research-expository papers. Their scope gives a representative status report on the field drawing a pic ture of a rapidly developing domain of analysis. An abun dance of references completes the picture. All papers included in the volume originate from lectures delivered at the l1th edition of the International Workshop on Operator The ory and its Applications (IWOTA-2000, June 13-16, Bordeaux). Some information about the conference, including the complete list of participants, can be found on forthcoming pages. The editors are indebted to A.Sudakov for helping them in polishing and assembling original TeX files. A. Borichev and N. Nikolski Talence, May 2001 v vii International Workshop on Operator Theory and Its Applications (June 13-June 16, 2000, Universite Bordeaux 1) The International Workshop on Operator Theory and its Applications (IWOTA) is a satellite meeting of the international symposium on the Mathe matical Theory of Networks and Systems (MNTS). In 2000, the MNTS is held in Perpignan, France, June 19-23. IWOTA 2000 was the eleventh workshop of this kind."

Topics in Operator Theory

"Systems and control theories use sophisticated operator theoretical methods. They also provide new ideas and problems in operator theory." "The articles in this volume originated from the IWOTA conference held at Indiana University, Bloomington, in June 1996. They represent most of the areas that were discussed at the workshop with some emphasis on modern interpolation theory, a topic which has seen much progress in recent years."--BOOK JACKET.Title Summary field provided by Blackwell North America, Inc. All Rights Reserved

Recent Progress in Operator Theory and Its Applications

Systems, Approximation, Singular Integral Operators, and Related Topics