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   Disciplina   515.724

   Soggetti   Operator theory
                        Matrix theory
                        Algebra
                        Global analysis (Mathematics)
                        Manifolds (Mathematics)
                        System theory
                        Operator Theory
                        Linear and Multilinear Algebras, Matrix Theory
                        Global Analysis and Analysis on Manifolds
                        Systems Theory, Control

   Lingua di pubblicazione   Inglese

   Formato   Materiale a stampa

   Livello bibliografico   Monografia

   Nota di contenuto   Standard versus strict Bounded Real Lemma with infinite-dimensional
                        state space II: The storage function approach -- Eigenvalues of even
                        very nice Toeplitz matrices can be unexpectedly erratic -- Spectral
                        regularity of a C*-algebra generated by two-dimensional singular
                        integral operators -- A spectral shift function for Schrödinger operators
                        with singular interactions -- Quantum graph with the Dirac operator
                        and resonance states completeness -- Robert Sheckley's Answerer for
                        two orthogonal projections -- Toeplitz kernels and model spaces --
                        Frames, operator representations, and open problems -- A survey on
                        solvable sesquilinear forms -- An application of limiting interpolation
                        to the Fourier series theory -- Isomorphisms of AC() spaces for
                        countable sets -- Restricted inversion of split-Bezoutians --
                        Generalized backward shift operators on Z[[x]], Cramer's formulas for

solving infinite linear systems, and p-adic integers -- Feynman path integral regularization using Fourier Integral Operator -functions -- Improving Monte Carlo integration by symmetrization -- Pseudodifferential operators with compound non-regular symbols -- More on the density of analytic polynomials in abstract Hardy spaces -- Asymptotically sharp inequalities for polynomials involving mixed Hermite norms -- A two-parameter eigenvalue problem for a class of block-operator matrices -- Finite sections of the Fibonacci Hamiltonian -- Spectral asymptotics for Toeplitz operators and an application to banded matrices -- Beyond fractality: piecewise fractal and quasifractal algebras -- Unbounded operators on Hilbert C*-modules -- A characterization of positive normal functionals on the full operator algebra -- The linearised Korteweg-deVries equation on general metric graphs -- Bounded multiplicative Toeplitz operators on sequence spaces -- On higher index differential-algebraic equations in innite dimensions -- Characterizations of centrality by local convexity of certain functions on C*-algebras -- Double-scaling limits of Toeplitz determinants and Fisher-Hartwig singularities.

| Sommario/riassunto | This book presents 29 invited articles written by participants of the International Workshop on Operator Theory and its Applications held in Chemnitz in 2017. The contributions include both expository essays and original research papers illustrating the diversity and beauty of insights gained by applying operator theory to concrete problems. The topics range from control theory, frame theory, Toeplitz and singular integral operators, Schrödinger, Dirac, and Kortweg-de Vries operators, Fourier integral operator zeta-functions, C*-algebras and Hilbert C*-modules to questions from harmonic analysis, Monte Carlo integration, Fibonacci Hamiltonians, and many more. The book offers researchers in operator theory open problems from applications that might stimulate their work and shows those from various applied fields, such as physics, engineering, or numerical mathematics how to use the potential of operator theory to tackle interesting practical problems. |