

Contents

Real Discrete Spectrum of Complex PT-Symmetric Scattering Potentials	1
Zafar Ahmed, Joseph Amal Nathan, Dhruv Sharma and Dona Ghosh	
Geometrical and Asymptotical Properties of Non-Selfadjoint Induction Equation with the Jump of the Velocity Field. Time Evolution and Spatial Structure of the Magnetic Field	11
Anna I. Allilueva and Andrei I. Shafarevich	
PT Symmetric Classical and Quantum Cosmology	29
Alexander A. Andrianov, Chen Lan and Oleg O. Novikov	
Operator (Quasi-)Similarity, Quasi-Hermitian Operators and All that	45
Jean-Pierre Antoine and Camillo Trapani	
Generalized Jaynes-Cummings Model with a Pseudo-Hermitian: A Path Integral Approach.	67
Mekki Aouachria	
Exceptional Points in a Non-Hermitian Extension of the Jaynes-Cummings Hamiltonian	83
Fabio Bagarello, Francesco Gargano, Margherita Lattuca, Roberto Passante, Lucia Rizzuto and Salvatore Spagnolo	
\mathcal{D}-Deformed and SUSY-Deformed Graphene: First Results	97
F. Bagarello and M. Gianfreda	
Localised Nonlinear Modes in the PT-Symmetric Double-Delta Well Gross-Pitaevskii Equation	123
I.V. Barashenkov and D.A. Zezyulin	
Exactly Solvable Wadati Potentials in the PT-Symmetric Gross-Pitaevskii Equation	143
I.V. Barashenkov, D.A. Zezyulin and V.V. Konotop	

The EMM and the Spectral Analysis of a Non Self-adjoint Hamiltonian on an Infinite Dimensional Hilbert Space	157
Natalia Bebiano and João da Providência	
Bessel Sequences, Riesz-Like Bases and Operators in Triplets of Hilbert Spaces	167
Giorgia Bellomonte	
Geometric Aspects of Space-Time Reflection Symmetry in Quantum Mechanics	185
Carl M. Bender, Dorje C. Brody, Lane P. Hughston and Bernhard K. Meister	
Mathematical and Physical Meaning of the Crossings of Energy Levels in \mathcal{PT}-Symmetric Systems	201
Denis I. Borisov and Miloslav Znojil	
Non-unitary Evolution of Quantum Logics	219
Sebastian Fortin, Federico Holik and Leonardo Vanni	
A Unifying E2-Quasi Exactly Solvable Model	235
Andreas Fring	
Sublattice Signatures of Transitions in a \mathcal{PT}-Symmetric Dimer Lattice	249
Andrew K. Harter and Yogesh N. Joglekar	
Physical Aspect of Exceptional Point in the Liouvillian Dynamics for a Quantum Lorentz Gas	263
Kazunari Hashimoto, Kazuki Kanki, Satoshi Tanaka and Tomio Petrosky	
Some Features of Exceptional Points	281
W.D. Heiss	
Spontaneous Breakdown of a PT-Symmetry in the Liouvillian Dynamics at a Non-Hermitian Degeneracy Point	289
Kazuki Kanki, Kazunari Hashimoto, Tomio Petrosky and Satoshi Tanaka	
Pseudo-Hermitian β-Ensembles with Complex Eigenvalues	305
Gabriel Marinello and Mauricio Porto Pato	
Green's Function of a General PT-Symmetric Non-Hermitian Non-central Potential	319
Brijesh Kumar Mourya and Bhabani Prasad Mandal	
Non-Hermitian Quantum Annealing and Superradiance	329
Alexander I. Nesterov, Gennady P. Berman, Fermín Aceves de la Cruz and Juan Carlos Beas Zepeda	

The Relationship Between Complex Quantum Hamiltonian Dynamics and Krein Space Quantization.	345
Farrin Payandeh	
Non-Hermitian \mathcal{PT}-Symmetric Relativistic Quantum Theory in an Intensive Magnetic Field	357
V.N. Rodionov	
Quasi-Hermitian Lattices with Imaginary Zero-Range Interactions	371
Frantisek Ruzicka	
Quantization of Big Bang in Crypto-Hermitian Heisenberg Picture	383
Miloslav Znojil	
Index	401

Non-Hermitian Hamiltonians in Quantum Physics
Selected Contributions from the 15th International
Conference on Non-Hermitian Hamiltonians in Quantum
Physics, Palermo, Italy, 18-23 May 2015
Bagarello, F.; Passante, R.; Trapani, C. (Eds.)
2016, XI, 403 p. 79 illus., 47 illus. in color., Hardcover
ISBN: 978-3-319-31354-2