

**NON-COMMUTING OPERATORS AND SPECTRAL INVARIANCE:
NON-HERMITIAN COMPLEX HAMILTONIAN AND NON-
HERMITIAN REAL HAMILTONIAN**

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ABSTRACT

We notice spectral invariance exists between non-commuting, non-Hermitian (PT-symmetry) Hamiltonian and corresponding real non-Hermitian (T-symmetry) operators. As an example we consider an analytically solvable model using the unified algebraic method of (H.B. Zhang, G.Y. Jiang and G.C. Wang J. Math. Phys 56,072103 (2015)) and numerical models. Interestingly the T-symmetry operators are generated using $x \rightleftharpoons p$.