

The Emergence of Jordan Blocks in Analytic Extensions of Quantum Theory

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The justification and rationale for analytically continuing quantum mechanics into the complex plane are recognized and briefly discussed. This extension is described by a complex symmetric representation, which is derived and demonstrated to include general Jordan block forms of Segrè characteristics larger than one. Various applications in physics and chemistry, where this extension appears necessary are pointed out, see e.g. references [1-3] below.

References

1. Brändas, E., 1995, Relaxation Processes and Coherent Dissipative Structures, In: Lippert, E and Macomber, J. D. (Eds) *Dynamics during Spectroscopic Transitions* (Berlin: Springer Verlag) 148-193; *ibid.* Applications of CSM Theory, 194-241.
2. BRÄNDAS, E., 2008, Quantum Mechanics and the Special- and General Theory of Relativity, *Adv. Quant. Chem.*, **54**, in press.
3. BRÄNDAS, E., 2008, Complex Symmetric Forms and the Emergence of Jordan Blocks in Analytically Extended Quantum Theory, *Int. J. Comp. Math.*, in press.