Balanced (non-Hermitian) Hamiltonians and applications

Fabio Bagarello

Dipartimento di Ingegneria, Università di Palermo, Viale delle Scienze, Palermo, Italy
[fabio.bagarello@unipa.it]

This talk is based on recent results on non-Hermitian Hamiltonians and on their Heisenberg-like evolution, both at a finite and at an infinitesimal level. We show that conserved quantities can be deduced in presence of *balanced* Hamiltonians. We also discuss some applications to Decision Making.

[1] F. Bagarello, J. P. Gazeau, F. H. Szafraniec e M. Znojil Eds., *Non-selfadjoint operators in quantum physics: Mathematical aspects*, John Wiley and Sons (2015)
[2] F. Bagarello, *Heisenberg dynamics for non self-adjoint Hamiltonians: symmetries and derivations*, Math. Phys. Anal. Geom., **26**, 1-15 (2023)
[3] F. Bagarello, *Pseudo-Bosons and Their Coherent States*, Springer, Mathematical Physics Studies, 2022
[4] F. Bagarello, *New results for Heisenberg dynamics for non self-adjoint Hamiltonians*, ZAMP, submitted
[5] F. Bagarello, G. Liarda, *Heisenberg-like dynamics for non self-adjoint Hamiltonians and applications*, Acta Appl. Math., submitted