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Short title: An alternative construction of the positive inner product for pseudo-Hermitian Hamiltonians: examples.

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Review text:

Via additional examples, the authors illustrate the practical applicability of the method proposed in their previous paper [1] (= recommended reading). Their very inspiring idea is based on the assumption of our knowledge of the so called generator σ_E of the eigenstates of a given Hamiltonian H.

The present examples include the trivial 2 by 2 toy model and the nontrivial imaginary cubic perturbation of harmonic oscillator. In the latter context it is extremely unfortunate that the authors did not notice the existence of the highly relevant, very strongly recommended and probably entirely general result published in paper "Metric Operator in Pseudo-Hermitian Quantum Mechanics and the Imaginary Cubic Potential" by Ali Mostafazadeh in J. Phys. A: Math. Gen. 39 (2006) 10171-10188 (arXiv:quant-ph/0508195).