Abstract Submitted
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Shape Invariance in Deformation Quantization[1] CONSTANTIN RASINARIU, Columbia College Chicago — Shape invariance is a powerful solvability condition, that allows for complete knowledge of the energy spectrum, and eigenfunctions of a system. After a short introduction into the deformation quantization formalism, this work explores the implications of the supersymmetric quantum mechanics and shape invariance techniques to the phase space formalism. We show that shape invariance induces a new set of relations between the Wigner functions of the system, that allows for their direct calculation, once we know one of them. The simple harmonic oscillator and the Morse potential are presented as examples.

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