



Mathematical Physics

# Eigenvalue equation for a 1--D Hamilton function in deformation quantization

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The eigenvalue equation has been found for a Hamilton function in a form independent of the choice of a potential. This paper proposes a modified Fedosov construction on a flat symplectic manifold. Necessary and sufficient conditions for solutions of an eigenvalue equation to be Wigner functions of pure states are presented. The 1--D harmonic oscillator eigenvalue equation in the coordinates time and energy is solved. A perturbation theory based on the variables time and energy is elaborated.

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