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Dynamical Invariance of a New Metaplectic-c Quantization Condition

Metaplectic-c quantization was developed by Robinson and Rawnsley as an alternative to the classical Kostant-Souriau quantization procedure with half-form correction. Given a metaplectic-c quantizable symplectic manifold (M, ω) and a real-valued function H on M , we propose a condition under which a regular value E of H is a quantized energy level for the system (M, ω, H) . We show that the condition is dynamically invariant: if there are two functions on M that share a level set, then the quantization condition over that level set is identical for both functions. We then show that the quantized energy levels obtained for the harmonic oscillator and the hydrogen atom are consistent with the predictions of quantum mechanics.