

Abstract Submitted  
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**Phase-space formulation of Nonadiabatic Quantum Processes** ANDRES ESTRADA-GUERRA, LEONARDO PACHON, Univ de Antioquia — Based on Schwinger's exact mapping of the discrete quantum variables onto continuous degrees of freedom and the phase-space path-integral representation of quantum dynamics by Marinov, a phase-space approach is developed here to analyze the quantum features of non-adiabatic processes. Being a phase-space formulation, the associated semiclassical description is by construction an initial value representation and allows for clearly analyzing classical and quantum contributions to the dynamics. The formulated theory is applied to the context of light-harvesting systems in photosynthetic complexes to understand the extent to which quantum effects are determinant in this nonadiabatic process.

Andres Estrada-Guerra  
Univ de Antioquia

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