

Abstract Submitted
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Newtonian trajectories as a tool for quantum dynamics in an electromagnetic field FONS BROSENS, University of Antwerpen, WIM MAGNUS, imec-Leuven — In previous studies, we showed that the classical equations of motion provide a solution to quantum dynamics, if appropriately incorporated in the Wigner distribution function, exactly reformulated in a type of Boltzmann equation. However, this earlier work was limited to scalar potentials. In the presence of an electromagnetic field, we now show that this description in terms of classical paths remains valid, despite the fact that the definition of the Wigner distribution function is not gauge invariant. Some analytical results are also presented.

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