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Quantum trajectories for entanglement phenomena EDWARD FLOYD[1], 10 Jamaica Village Rd, Coronado, California — Quantum trajectories are used to investigate entangled systems. Herein, we present a procedure or recipe for applying the quantum trajectory representation to entanglement. We may synthesize the wave function for an entangled system from the wave functions of the individual anyons comprising the entangled system. The reduced action (generator of the motion) for the entire entangled system may be extracted from entangled system's wave function rather than from solving the quantum Hamilton-Jacobi equation if, for sufficiency, all the wave functions for the individual anyons are complex. Applying Jacobi's theorem to reduced action renders the quantum trajectory for the entangled system. We exhibit quantum trajectories for entangled systems that give insight into EPR, wave packet spreading, and the quantum Young's experiment. Dissection of the trajectory equation for the entangled system reveals the emergence of an "entangalon" that maintains entanglement within the system.

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