

Abstract Submitted
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Quantum Young's experiment, nonlocality and trajectories EDWARD R. FLOYD, Coronado, California — The trajectory representation of Young's diffraction experiment is developed for a quantum particle. The double slit problem is idealized by simplifying each slit by a point source. The correlated point sources induce a self-entanglement in ψ of the synthesized quantum particle. In turn, entanglement induces nonlocality. A composite reduced action (a generator of nonlocal motion) for the self entangled ψ is developed. Contours of reduced action and nonlocal trajectories are generated in the region near the two point sources. The nonlocal trajectory through any point in configuration space also goes through both point sources simultaneously.

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