

Abstract Submitted
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Non-monotonicity in the quantum-classical transition: Chaos induced by quantum effects ARJENDU PATTANAYAK, Carleton College, ARIE KAPULKIN — The transition from classical to quantum behavior for chaotic systems is understood to be accompanied by the suppression of chaotic effects as the relative size of \hbar is increased. We show evidence to the contrary in the behavior of the quantum trajectory dynamics of a dissipative quantum chaotic system, the double-well Duffing oscillator. The classical limit in the case considered has regular behavior, but as the effective \hbar is increased we see chaotic behavior. This chaos then disappears deeper into the quantum regime, which means that the quantum-classical transition in this case is non-monotonic in \hbar .

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