Young's Experiment, Schrödinger's Spread and Spontaneous Intrinsic Decoherence

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The two slits interference pattern for single particle is revisited, showing its strict relation to the free particle Schrödinger's spread and describing the optical analogy. We explicitly show the possibility that spontaneous intrinsic decoherence (SID) can destroy interference pattern and that decoherence becomes stronger at the macroscopic limit.

Key words: Quantum Mechanics; Interference; Decoherence.