

Quantum Zeno Effect

Survival probability in a simple toy model (Rabi oscillations):

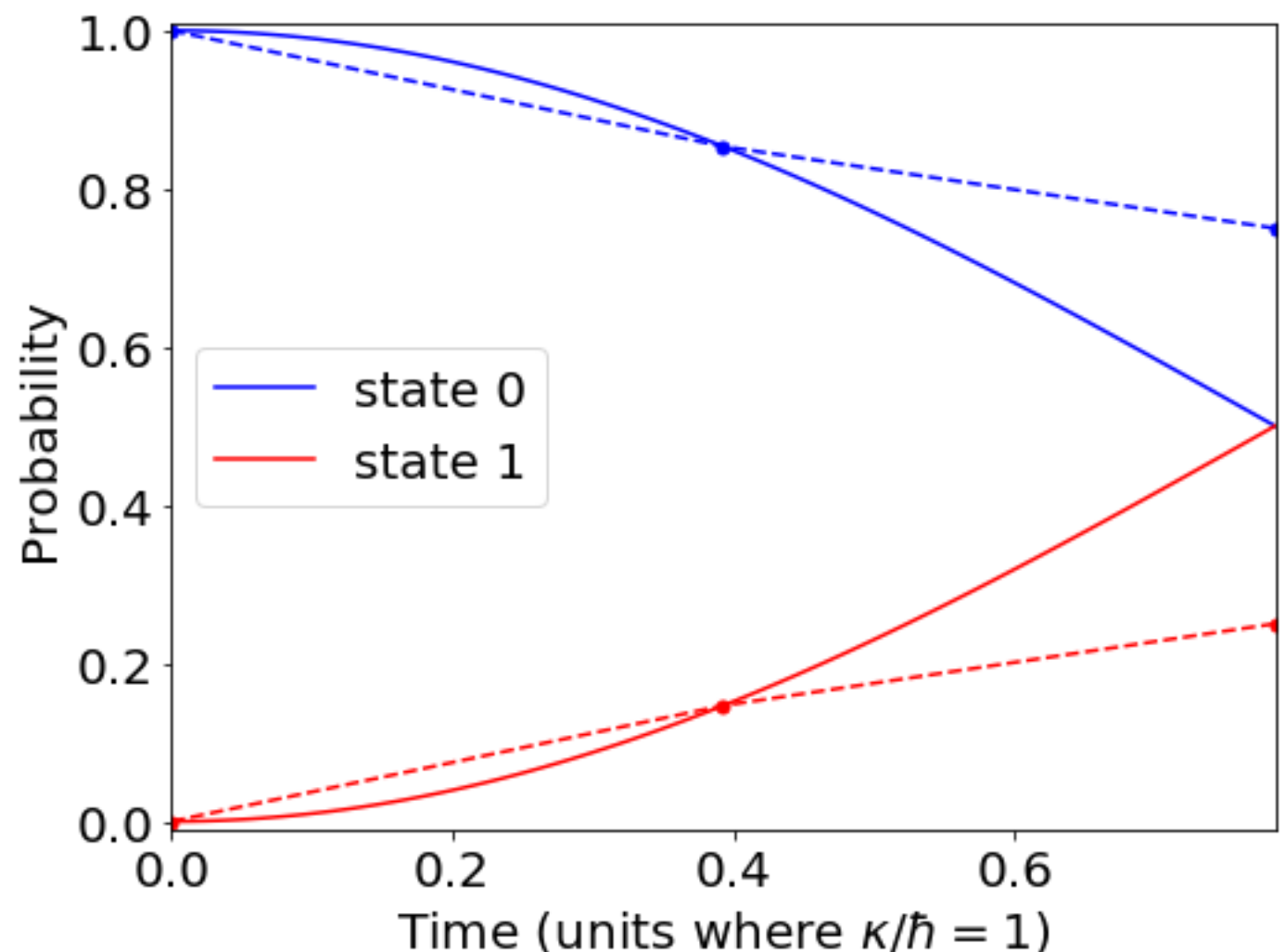
$$\hat{H} \doteq \begin{pmatrix} 0 & \kappa \\ \kappa & 0 \end{pmatrix} \quad P_{00}(t) = \left| \langle 0 | e^{-i\hat{H}t/\hbar} | 0 \rangle \right|^2 = \cos^2(\kappa t)$$

Key to QZE: Collapse of wavefunction resets clock

Measure once, at time t : 50%

First intermediate measurement follows predicted curve

Second does not! The clock was reset: quantum Zeno effect



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