Ultrafast control of superconducting qubits observed by time-resolved spectroscopy

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Despite considerable progress in recent years, several fundamental questions about superconducting qubits remain open. We observe good agreement between exact diagonalization and the measured spectra, and we show that the result is stable under a range of perturbations of the assumptions. In contrast to earlier studies, our approach accounts for heterogeneity and avoids the usual simplifying assumptions. We observe a crossover between two distinct regimes controlled by the coupling strength. Together, these results contribute to a more complete picture and open the way to further applications.

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