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## Quantum scattering measurements

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We consider a quantum system (scatterer) which interacts with a sequence of identical, independent quantum systems (scattering probes). The interaction is sequential, one by one. After leaving the scatterer, a quantum measurement is performed on each probe. The measurement outcomes form a random process. We analyze asymptotic properties of this process, such as the probability of convergence. If the process converges, then the scatterer is driven to a final state determined by the measurement outcomes. We also examine large deviations for the average of the measurements. We illustrate the concepts and results on the Jaynes-Cummings model, where both the scatterer and the probes are spins  $1/2$ , representing two degrees of freedom active in the scattering process.

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