



Einladung

zum

Seminar des Instituts für Quantenphysik

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Do Quantum Jumps “Jump”?

Freitag, den 25.08.2017
10:00 Uhr
N25/H 9

Abstract:

The evolving status of “jumps” in the lexicon of quantum physics is a tale that reaches back 100 years. Beginning with the atomic model of Bohr, jumps between quantized energy levels were a staple of the old quantum theory, underpinning the relationship between the frequency of emitted (absorbed) radiation and the energy lost (gained) by Bohr’s atom. Schrödinger’s wave equation, however, brought an opposing point of view, with discontinuity banished, replaced by continuously changing weights in a sum over proper modes of atomic oscillation (initial and final states)...And yet, moving on some 60 years, the first experiments with *single* trapped ions reported the observation of quantum jumps. This talk revisits those experiments. It asks whether the observed quantum jumps really “jump”, and whether an experiment might show that they do or not. An answer to both questions is provided, with the second addressed in a proposal to monitor the evolution of the quantum jump in superconducting circuits.