Abstract Submitted
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Resonances of a quanrum delta kicked accelerator VIJAYASHANKAR RAMAREDDY, I. TALUKDAR, GIL SUMMY, Physics Department, Oklahoma State University, Stillwater, OK, G. BEHINAEIN, P. AHMADI, School of Physics, Georgia Institute of Technology, Atlanta, GA — A quantum d-kicked accelerator exhibits the phenomenon of resonance whenever the period of kicking is a rational fraction of the half-Talbot time similar to a quantum d-kicked rotor. The signatures of these resonances are the existence of quantum accelerator modes. We observed resonances for the periods of 1/2, 2/3, and 1/3 of the half-Talbot time. A model based on the rephasing of the momentum states constituting the accelerator modes has been successfully used to predict the behavior.

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