

Abstract Submitted
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Quantum Accelerator Modes in BEC VIJAYASHANKAR RAMAREDDY, Oklahoma State University, GHAZAL BEHIN-AEIN, PEYMAN AHMADI, GIL SUMMY — The quantum delta kicked accelerator can be realized by subjecting cold atoms to spatially corrugated off resonant pulses of light. These standing wave pulses are applied in the direction in which there is a component of gravity and result in acceleration of a group of atoms. For the first time we observed Quantum Accelerator Modes (QAM) in BEC. We show that using the narrow momentum distribution of BEC, the structures in phase space map produced by a psuedo classical theory can be directly studied. We show that QAMs can be effeciently populated using BEC. Details will be presented.

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