

Abstract Submitted
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Pattern formation of quantum jumps with Rydberg atoms TONY LEE, MICHAEL CROSS, California Institute of Technology — We study the nonequilibrium dynamics of quantum jumps in a one-dimensional chain of atoms. Each atom is driven on a strong transition to a short-lived state and on a weak transition to a metastable state. We choose the metastable state to be a Rydberg state so that when an atom jumps to the Rydberg state, it inhibits or enhances jumps in the neighboring atoms. This leads to rich spatiotemporal dynamics that are visible in the fluorescence of the strong transition. It also allows one to dissipatively prepare Rydberg crystals.

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