

Abstract Submitted  
for the MAR16 Meeting of  
The American Physical Society

**Closed hierarchies and non-equilibrium steady states of driven systems** ISRAEL KLICH, University of Virginia — We present a class of tractable non-equilibrium dynamical quantum systems which includes combinations of injection, detection and extraction of particles interspersed by unitary evolution. We show how such operations generate a hierarchy of equations tying lower correlation functions with higher order ones. The hierarchy closes for particular choices of measurements and leads to a rich class of evolutions whose long time behavior can be simulated efficiently. In particular, we use the method to describe the dynamics of current generation through a generalized quantum exclusion process, and exhibit an explicit formula for the long time energy distribution in the limit of weak driving.

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Date submitted: 06 Nov 2015

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