

Abstract Submitted
for the MAR17 Meeting of
The American Physical Society

Open Markov processes: A compositional framework for non-equilibrium steady states. BLAKE POLLARD, University of California, Riverside — Open Markov processes are generalizations of Markov processes in which probability can flow in and out of the system through some set of boundary states. We present a framework in which open Markov processes are morphisms in a category. Composition in this category provides a systematic way of constructing larger systems by composing smaller open systems. We describe a ‘black-box functor’ which characterizes non-equilibrium steady states of open Markov processes in terms of the steady state flows of probability through the system.

Blake Pollard
University of California, Riverside

Date submitted: 01 Dec 2016

Electronic form version 1.4