

A Quick Introduction to Quasi-Birth-Death Processes

Brian Fralix
Associate Professor
School of Mathematical and Statistical Sciences
Clemson University

July 29, 2020

Abstract: Quasi-Birth-Death (QBD) processes were originally designed to model queueing systems governed by arrival patterns and amounts of work that cannot be modeled well by Poisson processes and exponential distributions, respectively, but at the same time these processes possess enough structure that allows them to be analyzed with “Markovian” reasoning. After giving an example or two of how QBD processes can be used to model random phenomena, I will then discuss some results that can be used to better understand the transient, or time-dependent, behavior of these processes.

Talk will take place from 1:00PM - 2:00PM through Zoom (invitation will be emailed to everyone soon).