1046-P1-1562   **Mark Evans**, **Lilinoe Harbottle**, **Ken Shun** and **Alan Krinik*** (`ackrinik@csupomona.edu`), Alan Krinik, Department of Mathematics and Statistics, 3801 W. Temple Avenue, Pomona, CA 91768. *Recursive formulae for Steady State Distribution of a Certain Class of Markov Process.*

An apparently new method of recursively determining the steady state distribution of a certain type of Markov process (having a finite or countable state space) is presented. Our approach may be viewed as a development of the iterative manner in which steady state probabilities of a general birth-death process are usually developed in standard operation research or stochastic process texts. Our technique is particularly useful for finding the steady state distribution of challenging Markov processes having a countable number of states. For suitable Markov processes, our method offers students and practitioners an alternative approach to the traditional generating function approach for finding steady state distributions of non birth-death, infinite state space Markov processes. As an example, we discuss the steady state distributions of bulk arrival queueing systems. A simple relationship between the transient probability functions of a Markov process and its dual transient probability functions is the key connection needed to establish our method. (Received September 16, 2008)