

Title: Recursive relations for the moments of the sizes of a Homogeneous Markov System (HMS) with or without state capacities. The closed HMS as a linear elastic continuum.

Abstract. The closed HMS is a Markov system with a finite number of states. Each state has a finite number of members and these members move between states according to some (known) infinitesimal probability generating matrix. Recursive relations for the sizes of the states with respect to time are derived. The HMS is then considered as a linear elastic continuum and its parameters are evaluated.