

# Markov chain properties in terms of column sums of the transition matrix

Jeffrey Hunter

*Auckland University of Technology, email: jeffrey.hunter@aut.ac.nz*

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Questions are posed regarding the influence that the column sums of the transition probabilities of a stochastic matrix (with row sums all one) have on the stationary distribution, the mean first passage times and the Kemeny constant of the associated irreducible discrete time Markov chain. Some new relationships, including some inequalities, and partial answers to the questions, are given using a special generalized matrix inverse that has not previously been considered in the literature on Markov chains.