

Analele Universității București, Matematică  
Anul LII, Nr. 2(2003), pp. 131–144

## Maximum Entropy Methods for Countable Markov Chains

Costel BĂLCĂU

November 17, 2003

**Abstract :** Using the method of maximum entropy in the mean (MEM) and the standard maximum entropy method (SME) we consider the maxentropic reconstruction of some homogeneous Markov chains with countable state space. The probability transition matrix is obtained from the knowledge of the set of initial and final state probabilities. Finally, we give two examples for this approach.

**Key words and phrases :** maximum entropy, homogeneous Markov chain, linear inverse problems, geometric programming.

**Mathematics Subject Classification (2000) :** 60J22, 90C90, 94A17.