1056-60-1836 **Partha Sarathi Dey*** (`partha@stat.berkeley.edu`), 367 Evans Hall, Department of Statistics #3860, Univ. of California at Berkeley, Berkeley, CA 94720. *Applicability of drift and minorization condition for finding rate of convergence of finite state space Markov chains.*

For Markov chains on general state space proving geometric ergodicity and finding an explicit rate of convergence to stationarity often require establishing a drift and an associated minorization condition. Also for finite state space Markov chain several well-established spectral methods are available. However, there is very little overlap between the methodologies for finding convergence rates for finite and general state space Markov chain. Here we will show that for finite state space Markov chain that makes only local transitions and have a "flat" stationary distribution, drift and minorization condition does not work well. It works only when the stationary distribution is peaked. On the other hand, methods from finite state space Markov chain can sometimes be used efficiently to get good convergence rate in general state space. This work arose out of a collaborative effort among participants of MRC conference on MCMC in summer 2009. (Received September 22, 2009)