Antonio Auffinger* (auffing@math.northwestern.edu), Michael Damron and Jack T Hanson. Rate of convergence of the mean for sub-additive ergodic sequences.

For a subadditive ergodic sequence \( \{X_{m,n}\} \), Kingman’s theorem gives convergence for the terms \( X_{0,n}/n \) to some non-random number \( g \). In this talk, I will discuss the convergence rate of the mean \( EX_{0,n}/n \) to \( g \). This rate turns out to be related to the size of the random fluctuations of \( X_{0,n} \); that is, the variance of \( X_{0,n} \), and the main theorems I will present give a lower bound on the convergence rate in terms of a variance exponent. The main assumptions are that the sequence is not diffusive (the variance does not grow linearly) and that it has a weak dependence structure. Various examples, including first and last passage percolation, bin packing, and longest common subsequence fall into this class. (Received December 17, 2014)