1092-60-84 **Michael B Woodroofe*** (michaelw@umich.edu). *Quenched Convergence for Normalized Sums of a Stationary Process.*

Consider a stationary Markov chain $W_0, W_1, \cdots$ with transition function Q and marginal distribution π, $Q(w,B) = P[W_{n+1} \in B | W_n = w]$ and $\pi\{B\} = P[W_n \in B]$. Given a $g \in L^2(\pi)$ for which $\int g d\pi = 0$, let $X_k = g(W_k)$, $S_n = X_1 + \cdots + X_n$, $\sigma_n^2 = E(S_n^2)$, and $F_n(z) = P[S_N/\sigma_n \leq z]$. Interest center on cases in which F_n converges weakly to the standard normal distribution function Φ. In touch cases, the convergence is said to be annealed. Next, let $G_n(w;z) = P[S_n/\sigma_n \leq z | W_0 = w]$, so that $D_n(w;\cdot)$ is the conditional distribution function of S_n/σ_n given $W_0 = w$. If $G_n(w;\cdot)$ converges (weakly) to Φ for *a.e.* $w(\pi)$, then the convergence is said to b quenched. Another possibility it that $G_n(W_0;\cdot)$ converges to Φ in probability. In this case, the convergence is said to be weakly quenched. The definitions extend directly to a stationary process $\cdots X_{-1}, X_0, X_1, \cdots$ with mean 0 and finition variance by letting $W_n = (\cdots, X_{n-1} X_n)$. Recent research on quenched convergence are known is reviewed and some new results presented. (Received July 30, 2013)