



Theorem 1 When $\rho < 1$, for all n , $Q^n(t) \Rightarrow Q^n(\infty)$ as $t \rightarrow \infty$.

Theorem 2 *For any $q(0)$, when $Q^n(0)/n \rightarrow q(0)$ almost surely as $n \rightarrow \infty$, then $Q^n(t)/n \rightarrow q(t)$ almost surely and uniformly on compact sets $[0, T]$.*

Theorem 3 *As $t \rightarrow \infty$, $q(t) \rightarrow q(\infty)$ for all $q(0)$.*

Theorem 4 *As $n \rightarrow \infty$, $Q^n(\infty)/n \rightarrow q(\infty)$ in probability.*