On Exponential Limit Laws for Hitting Times of Rare Sets for Harris Chains and Processes

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This paper provides a simple proof for the fact that the hitting time to an infrequently visited subset for a one-dependent regenerative process converges weakly to an exponential distribution. Special cases are positive recurrent Harris chains and Harris processes. The paper further extends this class of limit theorems to ``rewards'' that are cumulated to the hitting time of such a rare set.