

RANDOM LIMIT THEOREMS FOR RANDOM WALKS CONDITIONED TO  
STAY POSITIVE

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*Abstract:* Let  $\{X_k, k \geq 1\}$  be a sequence of independent, identically distributed random variables with  $EX_1 = 0$ ,  $EX_1^2 = \sigma^2 < \infty$ , and let  $\{N_n, n \geq 1\}$ ,  $N_0 = 0$  a.s., be a sequence of positive integer-valued random variables. Form the random walk  $\{S_{N_n}, n \geq 0\}$  by setting  $S_0 = 0$  and  $S_{N_n} = X_1 + \dots + X_{N_n}$ ,  $n \geq 1$ . This paper investigates the limit behaviour of  $P[S_{N_n} < x\sigma\sqrt{N_n} | S_1 > 0, S_2 > 0, \dots, S_{N_n} > 0]$ .

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