

ON MOMENTS OF LADDER HEIGHT VARIABLES\*

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Let  $X, X_1, X_2, \dots$  be i.i.d. random variables,  $EX = 0$ ,  $E|X| > 0$ , and  $S_n = X_1 + X_2 + \dots + X_n$ . Let  $F(x) = P(X^+ < x)$ ,  $G(x) = P(X^- < x)$  and  $N = \inf\{n \geq 0: S_n < 0\}$ . For  $p > 1$ , it is shown that  $E|S_N|^p < \infty$  if and only if

$$\int_0^{\infty} x^{p+1} dG(x) / \int_0^{\infty} y(y, x) dF(y) < \infty.$$

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