WEAK CONVERGENCE TO THE BROWNIAN MOTION OF THE PARTIAL SUMS OF INFIMA OF INDEPENDENT RANDOM VARIABLES

H. Hebda-Grabowska

Abstract: Let \( \{Y_n, n \geq 1\} \) be a sequence of independent, positive random variables, defined on a probability space \( (\Omega, \mathcal{A}, P) \), with the common distribution function \( F \).

Put \( Y^*_m = \inf(Y_1, Y_2, \ldots, Y_m), m \geq 1 \), and

\[
S_n = \sum_{m=1}^{n} Y^*_m, \quad n \geq 2, S_1 = 0.
\]

The aim of this note is to give the rate of weak convergence of \( \{S_n, n \geq 1\} \) to the Brownian motion. Moreover, the mixing limit theorem and the random functional limit theorem for the sums \( S_n, n \geq 1 \), are presented.

2000 AMS Mathematics Subject Classification: Primary: -; Secondary: -;
Key words and phrases: -

THE FULL TEXT IS AVAILABLE HERE