HÁJEK–RÉNYI–TYPE INEQUALITIES AND LAWS
OF LARGE NUMBERS FOR $L_q$–MIXINGALE ARRAY

Wang Xuejun, Hu Shuhe, Yang Wenzhi and Shen Yan

Abstract. In the paper, we get the precise results of maximal inequalities and Hájek-Rényi-type inequalities for the partial sums of $L_q$-mixingale array ($q > 1$), which generalize and improve the results of Theorem 1 and Theorem 2 in Meng and Lin [8]. We also get the strong law of large numbers, strong growth rate and the integrability of supremum for $L_q$-mixingale sequence ($q > 1$), which generalize and improve the results of Corollary 1 in the above cited reference and Corollary 2 in Hansen [4]. At last, a weak law of large numbers for $L_q$-mixingale array ($q \geq 2$) is given.


Keywords and phrases: Maximal inequality, Hájek-Rényi-type inequality, strong law of large numbers, growth rate, integrability of supremum, mixingale.

REFERENCES