# ON THE RATE OF CONVERGENCE FOR THE WEAK LAW OF LARGE NUMBERS

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*Abstract:* Let $X, X_1, X_2, ...$ be i.i.d. random variables with the common distribution F. Further, let $\{c_n\}$ be a sequence of positive numbers, and $\{b_n\}$ be a strictly increasing sequence of positive integers. The paper considers the convergence of the series

$$\sum_{n=1}^{\infty} c_n P(|X_1 + ... + X_{b_n}| \geq \varepsilon b_n)$$

under the interplay of three types of conditions:

(i) convergence of this series,

(ii) an appropriate moment condition on $X$,

(iii) a condition imposing constraints on the behavior of the sequences $\{c_n\}$ and $\{b_n\}$.

Three theorems have been proven; in each of these two among (i)-(iii) implying the third, with one of the theorems being valid for the general case, where the random variables involved are not necessarily i.i.d.

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