ON THE CONVERGENCE OF SOME DIScrete PROBABILITY DISTRIBUTIONS

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Abstract: In [4] Zakusilo proved that the random power series \( \sum_{n=1}^{\infty} c^n X_n \), where \( c \in (0, 1) \) and \( X_1, X_2, \ldots \) are i.i.d. random variables, is convergent with probability 1 if and only if \( E \log(|X_1| + 1) < \infty \). The purpose of this paper is to prove a discrete analogue of this theorem. Further, we extend the result to multiparameter random series.

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