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The Bernoulli theorem for probabilities that take p -adic values. (English. Russian original)

Zbl 0971.60034

Dokl. Math. 55, No. 3, 402-405 (1997); translation from Dokl. Akad. Nauk, Ross. Akad. Nauk 354, No. 4, 461-464 (1997).

The author considers the sequence of normalized sums

$$T_n = \frac{1}{n}(\xi_1 + \cdots + \xi_n), \quad n = 1, 2, \dots,$$

where $\xi_1, \dots, \xi_n, \dots$ are independent random variables taking values 0 and 1 with probability 1/2. The probability is understood as a \mathbb{Q}_p -valued bounded measure. It is shown that if a sequence $\{n_k\}$ converges in a p -adic metric, then the subsequence $\{T_{n_k}\}$ of the normalized sums converges in a certain weak sense. For a more detailed exposition see the author's book "Non-Archimedean analysis: Quantum paradoxes, dynamical systems and biological models" (1997; Zbl 0920.11087).

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MSC:

- 60F99 Limit theorems in probability theory
- 11K41 Continuous, p -adic and abstract analogues
- 60A99 Foundations of probability theory

Cited in 1 Document

Keywords:

Bernoulli scheme; p -adic probability; p -adic characteristic function