



## IV INTERNATIONAL BALTIC SYMPOSIUM ON APPLIED AND INDUSTRIAL MATHEMATICS

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### REFERENCES

1. *Ibragimov I. A., Linnik Yu. V.* Independent and Stationary Sequences of Random Variables. Groningen/Wolters-Noordhoff, 1971, 443 p.
2. *Kolchin V. F., Sevast'yanov B. A., Chistyakov V. P.* Random Allocations. Washington, DC/V.H. Winston & Sons, 1978, xi+262 p. (Ser. Scripta Series in Mathematics.)
3. *Zubkov A. M., Mikhailov V. G.* Limit distributions of random variables connected with long duplications in a sequence of independent trials. — Theory Probab. Appl., 1974, v. 19, № 1, p. 172–179.
4. *Mikhailov V. G.* Limit distributions of random variables connected with multiple long duplications in a sequence of independent trials. — Theory Probab. Appl., 1974, v. 19, № 1, p. 180–184.
5. *Zubkov A. M., Mikhailov V. G.* On the repetitions of s-tuples in a sequence of independent trials. — Theory Probab. Appl., 1979, v. 24, № 2, p. 269–282.
6. *Mikhailov V. G., Shoitov A. M.* On multiple repetitions of long tuples in a Markov chain. — Matematicheskie Voprosy Kriptografii, 2015, v. 6, № 3, p. 117–133.
7. *Mikhailov V. G.* On the estimation of the accuracy of Poisson approximation for distribution of number of series of repetitions of long tuples in a Markov chain. — Discrete Math. Appl., 2015, v. 27, № 4, p. 67–78.
8. *Tikhomirova M. I., Chistyakov V. P.* The statistical test of the empty cells type. — Matematicheskie Voprosy Kriptografii, 2010, v. 1, № 1, p. 101–108. (In Russian.)
9. *Chistyakov V. P.* On the asymptotic normality of the number of empty cells in a scheme of group allocation of particles. — Discrete Math. Appl., 2014, v. 24, № 6, p. 319–325.

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*Mezhennaya N. M., Mikhailov V. G.* (Moscow, Bauman Moscow State Technical University (BMSTU); Moscow, Steklov Mathematical Institute of Russian Academy of Sciences). **On the distribution of multiple repetitions in stationary sequence satisfying uniform mixing condition.**

*Abstract:* The paper presents limit theorems for the number of repetitions of letters in a segment of a stationary random sequence of length  $n$  satisfying the uniform mixing condition for  $n \rightarrow \infty$ . The fulfillment of the condition that the stationary distribution is equiprobable essentially changes the form of the limit law, namely, in the unequiprobable case, the asymptotic distribution for the number of multiple repetitions is normal, and in the equiprobable case it converges to a quadratic form from the normal random vector.

*Keywords:* multiple repetitions, limit theorem, uniform mixing, discrete random sequence.