

On the running maxima of subgaussian double arrays of random variables.

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The monograph [1] by Buldygin and Kozachenko is a unique references on the concepts and properties of subgaussianity and φ -subgaussianity. In this talk we will discuss the running maxima

$$Y_{m,j} = \max_{1 \leq k \leq m, 1 \leq n \leq j} X_{k,n} - a_{m,j},$$

where $\{X_{k,n}, k \geq 1, n \geq 1\}$ is a random double array of φ -subgaussian random variables and $\{a_{m,j}, m \geq 1, j \geq 1\}$ is a double array of constants to be specified. We obtain the asymptotic behaviour of the maxima of the double arrays of positive and negative parts of $\{Y_{m,j}, m \geq 1, j \geq 1\}$ when the tail distributions of $\{X_{k,n}, k \geq 1, n \geq 1\}$ satisfies some suitable “exponential-type” conditions.

The talk is based on joint results with I. Donhauzer, R. Giuliano, N. Hayek and A. Volodin.

References

- [1] Buldygin, V.V., Kozachenko Yu.V. (2000) *Metric Characterization of Random Variables and Random Processes*. American Mathematical Society, Providence RI.