# LIMIT THEOREMS FOR THE LEAST COMMON MULTIPLE OF A RANDOM SET OF INTEGERS

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Let $L_n$ be the least common multiple of a random set of integers obtained from $\{1, 2, \dots, n\}$ by retaining each element with probability $\theta \in (0, 1)$ independently of the others. In the talk I will discuss several asymptotic results for $\log L_n$, as $n \to \infty$. In particular, it will be shown that if $\theta$ is fixed, then a functional limit theorem for the sequence of random functions $[0, 1] \ni t \mapsto \log L_{\lfloor nt \rfloor}$ holds with a Gaussian limit process that is not a Brownian motion. I will also discuss regimes when $\theta$ varies with $n$ leading to Poisson limit theorems. The talk is based on the joint paper [1] with G. Alsmeyer and Z. Kabluchko (Münster, Germany).

## References

[1] G. Alsmeyer, Z. Kabluchko and A. Marynych (2018). Limit theorems for the least common multiple of a random set of integers. Preprint available at `https://arxiv.org/abs/1801.08934`.

[2] Cilleruelo, J., Rué, J., Šarka, P. and Zumalacárregui, A. (2014). The least common multiple of random sets of positive integers. *J. Numb. Theory* **144**, p. 92–104.