Section «Mathematics and mechanics»

On the Schatte Model and its Applications in Analysis and Number Theory

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I will talk about main results of my thesis. These will include:

1. The functional law of the iterated logarithm for the Schatte model and its applications.
2. The Hilbert space result for the empirical law of the iterated logarithm for the Schatte model and its applications to number theory including the exact asymptotics of discrepancy for the very large class of random subsequences. These are, in general, hopeless problems in number theory in case of deterministic sequences.
3. Almost sure central limit theorems for trigonometric sums with random frequencies. Here we recover some results of Erdos and discover some new possible limit distributions.

References

1. Raseta M. On the lacunary series with random gaps // Acta Mathematica Hungarica, to appear
2. Berkes I., Raseta M. On the discrepancy of random subsequences of $\{n\alpha\}$ // Uniform Distribution Theory, to appear