

A LAW OF THE ITERATED LOGARITHM FOR SUMS OF INDEPENDENT INDICATORS, WITH APPLICATION TO KARLIN'S OCCUPANCY SCHEME

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Let $X(t)$ be an infinite sum of independent indicators parameterized by t . Our main result is a law of the iterated logarithm (LIL) for $X(t)$. I shall explain that if the expectation b and the variance a of the sum are comparable, then the normalization in the LIL includes the iterated logarithm of a . If the expectation grows faster than the variance, while the ratio $\log b / \log a$ remains bounded, then the normalization in the LIL includes the single logarithm of a . Finally, I shall discuss an application of the LIL to the number of occupied boxes and related quantities in Karlin's occupancy scheme.

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