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Random entire functions in linear dynamics

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The rate of growth of an entire function $f(z) = \sum_{n=0}^{\infty} a_n z^n$ is given by the behaviour of $\max_{|z|\leq r} |f(z)|$ as $r \to \infty$. Randomizing the coefficients, that is, considering $f(z) = \sum_{n=0}^{\infty} a_n X_n z^n$ for a sequence $(X_n)_n$ of random variables, may decrease the rate of growth. This phenomenon was first observed by Paul Lévy in 1930, subsequently by Erdős and Renyi, and more recently by the school of complex analysis around O. B. Skaskiv at Lviv. By answering a question of Skaskiv, we improve and generalize the known results. We also discuss an application to the dynamics of weighted shift operators on the space $H(\mathbb{C})$ of entire functions.

This is joint work with Kevin Agneessens.
