Exposé court

23 ***Almost sure upper bound for random multiplicative functions***

Caich, Rachid (Institut de Mathématiques de Jussieu-Paris Rive Gauche)

Let $\varepsilon > 0$. Let f be a Steinhaus or Rademacher random multiplicative function. We prove that we have almost surely, as $x \to +\infty$,

$$\sum_{n \leqslant x} f(n) \ll \sqrt{x} (\log_2 x)^{\frac{1}{4}+\varepsilon}.$$

Thanks to Harper's Lower bound, this gives a sharp upper bound of the largest fluctuation of the quantity $\sum_{n \leqslant x} f(n)$.