Convergence of random continued fractions

L. Lorentzen
Department of Mathematics
Norwegian University of Science and Technology
7491 Trondheim, Norway
lisa@math.ntnu.no

Let \( \mu(z) \) be a probability measure on the complex plane \( \mathbb{C} \) minus the origin, where

- the expectation \( \mathbb{E}\{\ln(1 + |z|)\} < \infty \), and
- the support \( \text{supp} \mu \) contains more than one point.

Let \( K(a_n/1) \) be a continued fraction whose elements \( a_n \) are picked randomly from \( \mathbb{C} \setminus \{0\} \) according to this measure.

We address the question: under what conditions on \( \mu \) will \( K(a_n/1) \) converge with probability 1?

We shall see that there are some mild sufficient conditions with surprising consequences.