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Bjoern Kjos-Hanssen* (bjoern@math.cornell.edu), Department of Mathematics, Cornell University, Ithaca, NY 14853, and **Anil Nerode**, Department of Mathematics, Cornell University, Ithaca, NY 14853. *Complex oscillations and the law of the iterated logarithm.*

Algorithmic randomness is most often studied for the fair-coin measure on the Cantor space. However, it has also been considered for Wiener measure on the space of continuous functions on the unit interval. There, the analogue of a Martin-Löf random real is a complex oscillation.

In response to a question of Fouché, we show that the law of the iterated logarithm holds almost everywhere for each complex oscillation. A main idea of the proof is to take advantage of Carathéodory's theorem on isomorphism of measure algebras.

Next, we consider strengthenings of the result to weaker randomness notions. (Received September 04, 2006)