

**LARGE DEVIATIONS  
OF THE ERGODIC AVERAGES:  
FROM HÖLDER CONTINUITY  
TO CONTINUITY ALMOST EVERYWHERE**

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For many dynamical systems that are popular in applications, estimates are known for the decay of large deviations of the ergodic averages in the case of Hölder continuous averaging functions. In the present article, we show that these estimates are valid with the same asymptotics in the case of bounded almost everywhere continuous functions. Using this fact, we obtain, in the case of such functions, estimates for the rate of convergence in Birkhoff's ergodic theorem and for the distribution of the time of return to a subset of the phase space.

*Key words and phrases:* Birkhoff's ergodic theorem, large deviations, rates of convergence in ergodic theorems, Pomeau–Manneville mapping, return time.

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