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Title: How short might be the longest run in a dynamical coin tossing sequence

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Let $X_1, X_2, \ldots$ denote i.i.d. random bits each taking the values 1 and 0 with respective probabilities 1/2 and 1/2. A well-known theorem of Erdős and Rényi [2] describes the limit distribution of the length of the longest contiguous run of ones in $X_1, X_2, \ldots, X_n$ as $n \to \infty$. Benjamini et al. ([1] Theorem 1.4) demonstrated the existence of unusual times, provided that the bits undergo equilibrium dynamics in time. In fact they prove that the dynamics produces much longer runs than the original model. In the present paper we study the length of the shortest run in the presence of the dynamics.

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