Record Events in Dynamical Systems

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Abstract

For dynamical systems, there has been much work on the statistics of extremes. We look at the related topic of records. Namely, given a process $\{X_n\}$ generated by a dynamical system, we consider record events: namely times where $X_n > \max\{X_1, \ldots, X_{n-1}\}$. For certain dynamical systems, we consider the distribution of times for which records occur, and on the distribution of the corresponding record values. This work is joint with Mike Todd.