Abstract for an Invited Paper for the NEF06 Meeting of The American Physical Society

The Physics (and Mathematics) of Sports Records¹ BEATE SCHMITTMANN, Virginia Tech

How are records set and broken? Are there simple mathematical techniques which would help us approach this question? I will present a simple introduction to the statistics of extreme values. Motivated by an example from sports records, I will discuss the distribution, averages and lifetimes for a simplified model of such "records." Our input data are sequences of independent random numbers all of which are generated from the same probability distribution. A remarkable universality emerges: a number of results, including the lifetime histogram, are universal, that is, independent of the underlying distribution.

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