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Holger Kantz, Mozhdeh Massah and Matthew Nicol* (nicol@math.uh.edu), Department of Mathematics, University of Houston, Houston, TX 77204-3008. *Erdős-Renyi laws for dynamical systems modeled by Young Towers with exponential tails: applications to time-series analysis and large deviations*. Preliminary report.

Erdős-Rényi limit laws give the precise length scale of a time-window over which time-averages in Birkhoff sums have a non-trivial almost-sure limit. We establish Erdős-Rényi limit laws for Hölder observables on dynamical systems modeled by Young Towers with exponential tails. This extends earlier results on Erdős-Rényi limit laws from the class of non-uniformly expanding maps. We briefly discuss applications to time-series analysis and large deviations theory. (Received September 07, 2017)