ERDŐS-RÉNYI LAW OF LARGE NUMBERS AND ITS EXTENSIONS.

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Abstract. The Erdős-Rényi law of large numbers from 1970 says that if $X_1, X_2, ...$ is a sequence of independent identically distributed mean zero random variables, $I(\alpha) = \sup(t\alpha - \ln E(e^{tX_1}))$ and $b(n) = \lfloor \ln n \rfloor$ then with probability one

$I(\alpha) \lim_{n \to \infty} \max_{0 \leq m \leq n-b(n)} \frac{\sum_{i=m+1}^{m+b(\alpha)} X_i}{\ln n} = \alpha$

whenever $0 < I(\alpha) < \infty$. I will talk about the proof and some extensions obtained since their paper as well as possible future ones.