1162-05-196 **Alexander Riasanovsky*** (awnr@iastate.edu) and **Ryan Martin** (rymartin@iastate.edu).
On the edit distance function of random graphs.

Given a hereditary property of graphs $\mathcal{H}$ and a $p \in [0,1]$, the edit distance function $\mathrm{ed}_{\mathcal{H}}(p)$ is asymptotically the maximum proportion of edge-additions plus edge-deletions applied to a graph of edge density p sufficient to ensure that the resulting graph satisfies $\mathcal{H}$. The edit distance function is directly related to other well-studied quantities such as the speed function for $\mathcal{H}$ and the $\mathcal{H}$-chromatic number of a random graph.

Let $\mathcal{H}$ be the property of forbidding an Erdős-Rényi random graph $F \sim \mathbb{G}(n_0, p_0)$, and let φ represent the golden ratio. In this paper, we show that if $p_0 \in [1-1/\varphi, 1/\varphi]$, then **a.a.s.** as $n_0 \to \infty$,

$$\mathrm{ed}_{\mathcal{H}}(p) = (1+o(1))\,\frac{2\log n_0}{n_0} \cdot \min\left\{ \frac{p}{-\log(1-p_0)}, \frac{1-p}{-\log p_0} \right\}.$$

Moreover, this holds for $p \in [1/3, 2/3]$ for any $p_0 \in (0,1)$. (Received August 31, 2020)