1125-05-854 **Nina V Zubrilina*** (`nina57@stanford.edu`). *Dimension and edge dimension: random graphs and counterexamples.*

Let $G(V, E)$ be a connected simple undirected graph. The distance between an edge $e = v_1v_2$ and a vertex v is defined as $d(e, v) = \min\{d(v_1, v), d(v_2, v)\}$. A set $S \subset V$ generates E if for any $e_1 \neq e_2 \in E$ there exists $s \in S$ such that $d(e_1, s) \neq d(e_2, s)$. The cardinality of the smallest generating set of E is called the edge metric dimension of G and denoted $edim(G)$. We investigate various properties of $edim(G)$. We determine $edim$ of the random graph $G(n, p)$ for constant $p \in (0, 1)$. We also classify the graphs for which $edim(G) = n-1$ and show that $\frac{dim(G)}{edim(G)}$ isn't bounded from above (here $dim(G)$ is the standard metric dimension of G). Lastly, we compute $edim(G \square P_n)$ and $edim(G + K_1)$. (Received September 12, 2016)