

1154-05-59

**Emma Farnsworth\*** ([efarnsworth3@fingerlakes.edu](mailto:efarnsworth3@fingerlakes.edu)), Department of Mathematics, University of Rochester, Rochester, NY 14627, **Natalie Gomez** ([12nat26@gmail.com](mailto:12nat26@gmail.com)), Department of Mathematics, Texas State University, San Marcos, TX , and **Herlandt Lino** ([hxl1249@g.rit.edu](mailto:hxl1249@g.rit.edu)), School of Mathematical Sciences, Rochester Institute of Technology, Rochester, NY 14623. *Characterizing Nearly Asymmetric Graphs.*

A graph is asymmetric if its automorphism group of vertices is trivial. Asymmetric graphs were first studied by Erdős and Rényi in 1963. Following their paper, we define the asymmetric index of a graph, denoted  $ai(G)$ , to be the minimum value of  $r + s$ , where  $r$  is the number of edges removed from a graph and  $s$  is the number of edges added to a graph, so that the resulting graph is asymmetric. Furthermore, we investigate properties of asymmetric graphs and consider the larger problem of determining all non-isomorphic asymmetric graphs that can be created by adding and/or removing the minimum number of edges. (Received July 26, 2019)