1146-13-308 **Yan Gu**, **Huy Tai Ha**, **Jonathan L. O'Rourke*** (jorourk2@tulane.edu) and **Joseph W. Skelton**. *Symbolic Powers of Edge Ideals of Graphs.*

Let G be a graph, and let $I = I(G)$ be its edge ideal. When G is a unicyclic graph, we can decompose the symbolic powers of I in terms of its ordinary powers. With this information, we can calculate values relating the symbolic and ordinary powers, such as the Waldschmidt constant, the symbolic defect, and the resurgence number. We also use this to give a lower bound for the regularity of $I^{(s)}$ for arbitrary edge ideals, and we compute the regularity of $I(G)^{(s)}$ precisely when G is a cycle. (Received January 25, 2019)