1160-13-66 **Selvi K. Beyarslan**, **Jennifer Biermann*** (biermann@hws.edu), **Kuei-Nuan Lin** and **Augustine O'Keefe**. *Algebraic invariants of weighted oriented graphs.*

Let $\mathcal{D}$ be a weighted oriented graph and let $I(\mathcal{D})$ be its edge ideal in a polynomial ring R. We give a formula for the Castelnuovo-Mumford regularity of $R/I(\mathcal{D})$ when $\mathcal{D}$ is a weighted oriented path or cycle such that edges of $\mathcal{D}$ are oriented in one direction. Additionally, we compute the projective dimension for this class of graphs. (Received August 03, 2020)