1156-13-382 **Laura E. Ballard***, lballard@syr.edu. *Properties of the Toric Ring of a Chordal Bipartite Family of Graphs.*

This project concerns the classification and study of a group of Koszul algebras coming from the toric ideals of a chordal bipartite infinite family of graphs (alternately, these rings may be interpreted as coming from determinants of subsets of certain matrices). I have determined a system of parameters for this family of rings, have developed a proof for the regularity of the rings and explicitly determined the Hilbert series for the Artinian reduction of these modulo a linear system of parameters, yielding, in particular, the multiplicity of the original rings. I will also report on progress on the nonadditive derived homological algebra of this family of algebras. (Received January 28, 2020)