

1165-13-264

Laura Ballard*, lballard@syr.edu. *Properties of the Toric Rings of a Chordal Bipartite Family of Graphs.*

We discuss properties 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 certain ladder-like structures). We determine a linear system of parameters for each ring and explicitly determine the Hilbert series for the resulting Artinian reduction. As corollaries, we obtain the multiplicity and regularity of the original rings. This work extends results easily derived from lattice theory for a subfamily coming from a two-sided ladder to a family where, as we show, lattice theory no longer applies in any obvious way and includes constructive proofs which may be useful in future study of these rings and others. (Received January 19, 2021)