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Cellular free resolutions for normalizations of toric ideals

The theory of cellular resolutions provides a concrete way to construct free resolutions of monomial ideals by relating them to cell complexes. While Bayer–Sturmfels formulate an analogue for binomial ideals, this theory is less fully developed. In this talk, we will expand the framework for cellular free resolutions and give explicit free resolutions for the normalization of a toric ideal. This is based on joint work with Christine Berkesch, Lauren Cranton Heller, and Jay Yang.