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**Claudia Miller\*** (clamille@syr.edu), **Hamidreza Rahmati** and **Rebecca R.G.** *Free resolutions of Artinian compressed algebras with application to Frobenius powers of an ideal.*

We construct free resolutions of generic (more precisely, compressed) Artinian graded algebra quotients of polynomial rings and give a method to reduce them to a minimal resolutions. Our result generalizes results of El Khoury and Kustin for Gorenstein algebras of even socle degree with a very different proof. This yields results on the form of the resolution and the degrees of the forms in the matrices of the differentials, but not precise Betti numbers.

If time permits, we discuss an application to the conjectured curious behavior of the Betti numbers of the Frobenius powers of the maximal ideal in hypersurfaces  $R = k[x, y, z]/(f)$ , where  $k$  is an infinite field of positive characteristic. We show that if  $f$  is chosen generically, then high enough Frobenius powers of the maximal ideal have identical graded Betti numbers up to explicit shifts. (Received August 27, 2018)