

1151-13-246

Claudia Miller, Hamidreza Rahmati and Rebecca R.G.* (rrebhuhn@gmu.edu). *Betti numbers of the Frobenius powers of the maximal ideal over a generic hypersurface.*

In a number of examples, the Betti numbers of the Frobenius powers of the maximal ideal of hypersurfaces $R = k[x, y, z]/(f)$ (where k is a field of characteristic $p > 0$) exhibit cyclic behavior as the Frobenius power increases. This was initially demonstrated by Kustin and Ulrich. We prove that if f is chosen suitably generically and has odd degree then high enough Frobenius powers of the maximal ideal have identical graded Betti numbers up to explicit shifts. We also find the Hilbert-Kunz function and some structural features of the resolution and its associated matrix factorization. This is joint work with Claudia Miller and Hamid Rahmati. (Received August 19, 2019)