1128-13-199   **Janet Page*** (`jpage8@uic.edu`). *The Frobenius Complexity of Hibi Rings.*

Cartier algebras and their duals, rings of Frobenius operators, have come up in the study of Frobenius splittings, which have been useful in many topics ranging from singularity theory in algebraic geometry to representation theory. When R is a local ring of characteristic $p > 0$, the Cartier algebra $\mathcal{C}(R)$, which is the ring of all potential Frobenius splittings of R, is dual to the ring of Frobenius operators (p^e-linear maps) on the injective hull of the residue field. This ring of Frobenius operators need not be finitely generated over R, which led Enescu and Yao to define Frobenius complexity as a measure of its non-finite generation. In their examples Frobenius complexity is not always even rational, but its limit as $p \to \infty$ is an integer. Few other examples have been computed. In this talk, I will discuss a method to compute limit Frobenius complexity for Hibi rings, which are a class of toric rings defined from finite posets. I will show that this computation can be read directly from the defining poset in nice cases. (Received February 26, 2017)

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