

1107-13-132

**Denise A. Rangel Tracy\*** ([detracy@syr.edu](mailto:detracy@syr.edu)), NY. *A Description of the Isomorphism Classes of Totally Reflexive Modules for a Class of non-Gorenstein Rings.*

Totally reflexive modules over a non-Gorenstein ring are an analog to maximal Cohen-Macaulay modules over a Gorenstein ring. It is known that the category of totally reflexive modules over a non-Gorenstein ring is either trivial (consisting only of free modules) or is infinite. When it is infinite it is quite often of wild representation type. In this talk, we will investigate the nontrivial category over rings of the form  $S_i = k[x, y_1, \dots, y_i]/(x^2, (y_1 \dots, y_i)^2)$ . We will show that the isomorphism classes of totally reflexive modules are in bijection with the  $i$ th-wise conjugacy classes of certain square matrices. That is, for any invertible matrix  $P$  and a fixed  $i$ -tuple of matrices, we have that  $P(B_1, B_2, \dots, B_i)P^{-1} = (PB_1P^{-1}, PB_2P^{-1}, \dots, PB_iP^{-1})$  corresponds to an isomorphism class of totally reflexive  $S_i$ -modules. (Received January 09, 2015)