

1116-16-2324

Andrew B. Conner* (abc12@stmarys-ca.edu). *Knörrer periodicity for noncommutative matrix factorizations*. Preliminary report.

Knörrer's periodicity theorem states that over an algebraically closed field of characteristic $\neq 2$ the stable category of maximal Cohen-Macaulay (MCM) modules over a complete hypersurface singularity of the form $S/(f)$ is equivalent to the stable category of MCM modules over $S[[u, v]]/(f + uv)$. This result provides a useful reduction tool in the classification of hypersurfaces of finite Cohen-Macaulay type. The proof relies on Eisenbud's correspondence between maximal Cohen-Macaulay modules over hypersurfaces and matrix factorizations.

Recently, Cassidy, Kirkman, Moore and the author proved a version of Eisenbud's correspondence for noncommutative graded hypersurfaces. In this talk we give a version of Knörrer's periodicity for algebras of the form $A/(f)$ where A is an Artin-Schelter regular algebra over an algebraically closed field of characteristic $\neq 2$ and f is a normal, regular, homogeneous element of even degree. (Received September 22, 2015)