Noncommutative matrix factorizations and noncommutative Knorrer's periodicity

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Abstract: Matrix factorizations and Knorrer's periodicity are very useful to study Cohen-Macaulay representation theory over hypersurfaces in commutative ring theory. To study noncommutative quadric hypersurfaces, we extend a notion of matrix factorization to noncommutative algebras and prove a certain version of Knorrer's periodicity for noncommutative quadric hypersurfaces. This talk is based on a joint work with Ueyama.