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Matrix factorisation for domestic singularities

This is a report on joint work with Helmut Lenzing and Hagen Meltzer. In the last years stabilized vector bundle categories are more and more important in modern algebra.

Let k be a field and $R = k[X,Y,Z]/\langle f \rangle$ a canonical algebra of domestic type. We consider the category vect \mathbb{X} where \mathbb{X} is the weighted projective line associated to R. In this situations the stabilized category vect X is equivalent to the stabilized category of Cohen-Macaulay modules over R and to the derived category of the singularity R. We describe matrix factorisations for all indecomposable objects Z in vect X. For this we calculate injective hulls and projective covers for these Z.