

1154-13-1542 **Petter Andreas Bergh** and **Peder Thompson*** (peder.thompson@ntnu.no). *Relating matrix factorizations and totally acyclic complexes.*

There is a classic correspondence, due to Eisenbud and Buchweitz, between matrix factorizations of a nonzero element f in a regular local ring Q and totally acyclic complexes of projective $Q/(f)$ -modules. Over any commutative ring, we show how this correspondence can be realized more generally as an embedding of the homotopy category of matrix factorizations belonging to a self-orthogonal subcategory of modules into a corresponding homotopy category of totally acyclic complexes. Some cases of interest will include when the self-orthogonal subcategory is that of projective or flat cotorsion modules. (Received September 16, 2019)