

Derived categories of Grassmannians in arbitrary characteristic

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We discuss joint work with Ragnar Buchweitz and Graham Leuschke on the derived category of Grassmannians in arbitrary characteristic. Generalizing Kapranov's well-known characteristic-zero results we construct dual exceptional collections on them (which are however not strong) as well as a tilting bundle. We show that this tilting bundle has a quasi-hereditary endomorphism ring and we identify the standard, costandard, projective and simple modules of the latter. The basic technical tool is a semi-orthogonal decomposition of the derived category whose parts are given by generalized Schur algebras.