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Quivers and homogeneous vector bundles on flag manifolds

The category of homogeneous vector bundles on a flag manifold $X = G/P$ of ADE-type is equivalent to the category of representations of a certain quiver Q_X with relations.

This equivalence was found in some cases by Bondal, Kapranov and Hille. In the particular case of Hermitian symmetric varieties, Ottaviani and Rubei used this equivalence as a tool to compute the cohomology of homogeneous vector bundles, thus generalizing the well-known Bott Theorem.

I will show results holding in the general case. If time permits, I will also show some interesting applications to simplicity and stability of tangent bundles.