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An analogue of Greene–Plessar mirror symmetry for the Grassmannian

The most basic construction of mirror symmetry compares the Calabi–Yau hypersurfaces of $\mathbb{P}^n$ and $\mathbb{P}^n/G$, where G is a certain finite group. These examples first appeared in the 90s in the work of Greene–Plessar. In the intervening decades, this original construction has been generalized to Fano toric varieties and weighted projective spaces. But in addition to projective spaces being the simplest example of a toric variety and of a weighted projective spaces, they are also the simplest example of a Grassmannian. Moreover, there is a natural analogue of the finite group G for the Grassmannian $Gr(n, r)$. In this talk, I'll explain how toric degenerations, blow-ups, variation of GIT and mirror symmetry relate the Calabi–Yau hypersurfaces of $Gr(n, r)$ and $Gr(n, r)/G$. This is joint work with Tom Coates and Charles Doran.