

7/24 [Sibylle Schroll] Grassmannian categories of infinite rank from hypersurface singularities

We construct Grassmannian categories of infinite rank as graded maximal Cohen-Macaulay modules over a hypersurface singularity, providing an infinite analogue of the Grassmannian cluster categories introduced by Jensen, King, and Su. We show that the generically free rank one modules in a Grassmannian category of infinite rank are in a structure preserving bijection with the Plücker coordinates in a Grassmannian cluster algebra of infinite rank. This follows from a combinatorial dimension formula for the extensions between generically free rank one modules. This is joint work with Jenny August, Man-Wai Cheung, Eleonore Faber and Sira Gratz.