
TIANYI YU, LACIM

A positive combinatorial formula for the double Edelman–Greene coefficients

Lam, Lee, and Shimozono introduced the double Stanley symmetric functions to study the equivariant geometry of the affine Grassmannian. They showed that the double Edelman–Greene coefficients, the double Schur expansion coefficients of these functions, are Graham-positive. This positivity was later refined by Anderson. They further asked for an explicit combinatorial formula that manifests this positivity directly. We provide the first such formula, built from two combinatorial models: bumpless pipedreams and increasing chains in the Bruhat order. The key ingredients of our proof are a connection between these two models and a symmetry of increasing chains recently discovered by Sottile and Yu. This is a joint work with Jack Chen-An Chou.