Vexillary double Edelman–Greene coefficients are Graham positive

Adam Gregory University of Florida

Based on joint work with Zachary Hamaker and Tianyi Yu

Lam, Lee, and Shimozono (LLS) recently introduced backstable double Schubert polynomials to represent classes in the cohomology ring of the infinite flag variety. Using these polynomials, they introduce double Stanley symmetric functions, which expand into double Schur functions with polynomial coefficients called double Edelman–Greene coefficients. They prove that double Edelman–Greene coefficients are Graham positive. For vexillary permutations, we use a bijection of Weigandt to convert this result to a statement for skew flagged double Schur functions, where we give an explicit combinatorial formula for double Edelman–Greene coefficients that is manifestly Graham positive. Our methods extend to the K-theoretic setting, partially affirming a later conjecture of LLS now proven geometrically by Anderson.