
SUNITA CHEPURI, University of Michigan
Kazhdan-Lusztig Immanants for k -Positive Matrices

Immanants are matrix functionals that generalize the determinant. One notable family of immanants are the Kazhdan-Lusztig immanants. These immanants are indexed by permutations and are defined as sums involving Kazhdan-Lusztig polynomials specialized at $q = 1$. Kazhdan-Lusztig immanants have several interesting combinatorial properties, including that they are nonnegative on totally positive matrices. We give a condition on permutations that allows us to extend this theorem to the setting of k -positive matrices.