Planar networks and quantum immanants

Sam Clearman 02/23/2015

Certain Kazdhan-Lustig basis elements for the type A Iwahori-Hecke algebra admit a combinatorial model in terms of planar networks. Using these networks and quantum matrix immanants, we give positive combinatorial formulae for evaluating the induced sign and trivial characters. We discuss connections to chromatic symmetric functions and total nonnegativity.