Vanishing Integrals for Hall-Littlewood Polynomials.

In a recent paper, Rains and Vazirani used Hecke algebra techniques to develop \((q,t)\)-generalizations of a number of well-known vanishing identities for Schur functions. However, their approach does not work directly at \(q = 0\) (the Hall-Littlewood level). We discuss a technique that is more combinatorial in nature, and allows us to obtain generalizations of some of their results at \(q = 0\) as well as a finite-dimensional analog of a recent summation formula of Warnaar. We will also briefly explain how these results are related to \(p\)-adic representation theory. Finally, we will explain how this method can be extended to give an explicit construction of Hall-Littlewood polynomials of type \(BC\). (Received August 31, 2011)