

1096-05-2394

**Arun Ram, Martha Yip\*** (myip@math.upenn.edu) and **Meesue Yoo**. *Macdonald polynomials with shifted parameters*. Preliminary report.

The classical Weyl character formula for the type A root system states that the Schur function  $s_\lambda = \frac{a_{\lambda+\rho}}{a_\rho}$ , where  $a_{\lambda+\rho} = \det[x_i^{\lambda_j+n-j}]$  (and  $a_\rho$  is the Vandermonde determinant). More generally, the Macdonald polynomial  $P_\lambda(q, t)$  is a symmetric function which specializes to  $s_\lambda$  at  $q = t = 0$ . In this case, the  $qt$ -analogue of the Weyl character formula expresses the Macdonald polynomial with shifted parameters as  $P_\lambda(q, qt) = \frac{A_{\lambda+\rho}(q, t)}{A_\rho(q, t)}$ . Inspired by this, we use the alcove walk model for computing Macdonald polynomials to obtain a combinatorial formula for expressing the shifted  $P_\lambda(q, qt)$  as a linear combination of  $P_\nu(q, t)$ . This is joint work with A. Ram and M. Yoo. (Received September 17, 2013)