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**Jae-Ho Lee\*** (jhlee@math.wisc.edu), 480 Lincoln Dr, Madison, WI 53706. *Q-polynomial distance-regular graphs and the double affine Hecke algebra of rank one.*

Let  $\Gamma$  denote a  $Q$ -polynomial distance-regular graph with vertex set  $X$ . We assume that  $\Gamma$  has  $q$ -Racah type and contains a Delsarte clique  $C$ . Fix a vertex  $x \in C$ . We partition  $X$  according to the path-length distance to both  $x$  and  $X$ . This is an equitable partition. For each cell in this partition, consider the corresponding characteristic vector. These characteristic vectors form a basis for a  $\mathbb{C}$ -vector space  $W$ .

The universal double affine Hecke algebra of type  $(C_1^\vee, C_1)$  is the  $\mathbb{C}$ -algebra  $\hat{H}_q$  defined by generators  $\{t_n^\pm\}_{n=0}^3$  and relations (i)  $t_n t_n^{-1} = t_n^{-1} t_n = 1$ ; (ii)  $t_n + t_n^{-1}$  is central; (iii)  $t_0 t_1 t_2 t_3 = q^{-1/2}$ . In this talk, we display an  $\hat{H}_q$ -module structure for  $W$ . (Received February 20, 2013)