

1116-33-114

Jae-Ho Lee* (jhlee@ims.is.tohoku.ac.jp), 6-3-09 Aramaki-Aza-Aoba, Aoba-ku, Sendai, 980-8579, Japan. *Nonsymmetric Askey-Wilson polynomials and Q -polynomial distance-regular graphs.*

Nonsymmetric Askey-Wilson polynomials are defined as eigenfunctions of Cherednik-Dunkl operator and form a linear basis of the vector space of the Laurent polynomials in one-variable. It is known that nonsymmetric Askey-Wilson polynomials are orthogonal with respect to a certain bilinear form. In this paper we define certain nonsymmetric Laurent polynomials in one-variable, using a Q -polynomial distance-regular graph that contains a Delsarte clique. We discuss how these polynomials are related to the nonsymmetric Askey-Wilson polynomials. Furthermore, using the above Q -polynomial distance-regular graph we define another bilinear form with respect to which the nonsymmetric Askey-Wilson polynomials are orthogonal. (Received July 29, 2015)