

MOMENTS OF ASKEY-WILSON POLYNOMIALS

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Askey-Wilson polynomials are a family of orthogonal polynomials that are at the top of the hierarchy in the Askey scheme. In this talk, we give new formulas for the moment $\mu_n(a, b, c, d; q)$ of Askey-Wilson polynomials. As a corollary we obtain a symmetric polynomial expressions for $\mu_n(a, b, c, 0; q)$. We give a combinatorial proof of the formula for $\mu_n(a, b, 0, 0; q)$. We also give the first combinatorial proof of the formula for the moments of q -Laguerre polynomials due to Corteel, Josuat-Vergs, Prellberg, and Rubey. If time permits, we will see that our formula can be used to derive various results in the literature. This is joint work with Dennis Stanton.

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