1116-33-838 **Wolter Groenevelt*** (w.g.m.groenevelt@tudelft.nl), Delft Institute of Applied Mathematics, Technische Universiteit Delft, Mekelweg 4, 2628 CD Delft, Netherlands. *Orthogonal polynomials related to a ${}_2\psi_2$-summation formula.*

We consider orthogonal polynomials corresponding to a q-integral on $\mathbb{R}$. The q-integral can be written as a sum of two bilateral q-hypergeometric ${}_2\psi_2$-series, for which an evaluation formula is known due to Slater. The corresponding orthogonal polynomials, which are (limit cases of) big q-Jacobi polynomials, do not form a basis for the corresponding L^2-spaces. A set of functions that complements the orthogonal polynomials to an orthogonal basis can be obtained using spectral analysis of q-difference operators. These polynomials and their complementing function arise naturally in representation theory of quantum groups. (Received September 14, 2015)