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Xin Li* (xli@math.ucf.edu), Department of Mathematics, University of Central Florida,
Orlando, FL 32816. *On A Family of Mixed Difference and q -Difference Equations*. Preliminary
report.

We will establish the convergence of a sequence of functions satisfying a second order mixed difference and q -difference equations. These equations appear in the study of the Plancherel-Rotach-type asymptotics of a family of q -orthogonal polynomials that are closely related to the q -analogue of the Airy function introduced by M.E.H. Ismail. (Received February 01, 2006)