1086-33-2288 **Xiang-Sheng Wang*** (xswang@mun.ca), Dept of Math & Stat, Memorial University of Newfoundland, St. John's, NL A1C 5S7, Canada. *Uniform Asymptotics of Some q-Orthogonal Polynomials.* Preliminary report.

Uniform asymptotic formulas are obtained for the Stieltjes-Wigert polynomial, the q^{-1}-Hermite polynomial and the q-Laguerre polynomial as the degree of the polynomial tends to infinity. In these formulas, the q-Airy polynomial, defined by truncating the q-Airy function, plays a significant role. While the standard Airy function, used frequently in the uniform asymptotic formulas for classical orthogonal polynomials, behaves like the exponential function on one side and the trigonometric functions on the other side of an extreme zero, the q-Airy polynomial behaves like the q-Airy function on one side and the q-Theta function on the other side. The last two special functions are involved in the local asymptotic formulas of the q-orthogonal polynomials. It seems therefore reasonable to expect that the q-Airy polynomial will play an important role in the asymptotic theory of the q-orthogonal polynomials. (Received September 25, 2012)