Jeffrey Thomas Neugebauer*, jeffrey.neugebauer@eku.edu, and Murat Adivar, Muhammad N. Islam and H. Can Koyuncuoglu. Periodic solutions of $q$-Volterra integral equations.

We study the periodicity properties of functions that arise in quantum calculus. First, a linkage between two existing periodicity notions is established. Second, the existence of periodic solutions of a $q$-Volterra integral equation, which is a general integral form of a first order $q$–difference equation, is obtained. At the end, some examples are provided. (Received August 11, 2015)