

**NONLOCAL BOUNDARY VALUE PROBLEM FOR SECOND  
ORDER ANTI-PERIODIC NONLINEAR IMPULSIVE  $q_k$ -  
INTEGRODIFFERENCE EQUATION**

**Hao Wang, Yuhang Zhang, Mingyang Shen & Yansheng He\***  
Department of Mathematics, Yanbian University, Yanji, 133002  
P.R. CHINA

**ABSTRACT**

A second order anti-periodic nonlinear impulsive integrodifference equation within the frame of  $q_k$ -quantum calculus is investigated by applying using fixed point theorems. The conditions for existence and uniqueness of solution are obtained.

**KEYWORDS:**  $q_k$ -Integrodifference Equation,  $q_k$ -derivatives,  $q_k$ -integrals, Boundary Value Problem.