1067-39-2141 **Kristen Abernathy*** (kekobylu@ncsu.edu) and **Jesus Rodriguez**. *Non-local boundary value problems for discrete systems.*

Our goal in this talk is to provide sufficient conditions for the existence of solutions to discrete, nonlinear systems of the form

$$y(k+n)+\cdots+a_0(k)y(k)=f(y(k))+\sum_{l=0}^{J}w(k,l)g(l,y(l),\cdots,y(l+n-1))$$

subject to the multipoint boundary conditions

$$\sum_{j=1}^{n}b_{ij}(0)y(j-1)+\sum_{j=1}^{n}b_{ij}(1)y(j)+\cdots+\sum_{j=1}^{n}b_{ij}(J)y(j+J-1)=0$$

for $i=1,2,\cdots,n$. The criteria we present depends on the size of the nonlinearity and the set of solutions to the corresponding linear, homogeneous boundary value problems. Our analysis is based on the Lyapunov-Schmidt Procedure and Brouwer's Fixed Point Theorem. The results presented extend the previous work of J. Rodriguez and P. Taylor and D. Etheridge and J. Rodriguez. (Received September 22, 2010)