1056-39-28 **Jeffrey W Lyons*** (Jeff_Lyons@baylor.edu), 1226 James Ave Apt 210, Waco, TX 76706.

Boundary Data Smoothness for Solutions of Nonlocal Boundary Value Problems for nth Order Difference Equations. Preliminary report.

Under certain conditions, derivatives and differences, with respect to boundary data and parameters, are studied for solutions of the nth order discrete nonlocal boundary value problem, $w(m+n) = f(m, w(m), w(m+1), \ldots, w(m+n-1)), w(m_i) = w_i$, for $1 \leq i \leq n-1$, and $w(m_n) - \sum_{i=1}^{r} \alpha_i w(\eta_i) = w_n$, where $m_1 < m_1 + 1 < m_2 < m_2 + 1 < \cdots < m_{n-1} < m_{n-1} + 1 < \eta_1 < \eta_1 + 1 < \eta_2 < \eta_2 + 1 < \cdots < \eta_r < \eta_r + 1 < m_n$ in $\mathbb{Z}$ and $\alpha_1, \alpha_2, \ldots, \alpha_r \in \mathbb{R}$. (Received June 10, 2009)