1087-05-223 **Emlee W Nicholson*** (nichoe@millsaps.edu). *Degree sum condition for k-ordered hamiltonian connected graphs.*

Let G be a graph on n vertices. If for any ordered set of vertices $S = \{v_1, v_2, \ldots, v_k\}$, that is, the vertices in S appear in order of the sequence $v_1, v_2, \ldots, v_k$, there exists a $v_1 - v_k$ (hamiltonian) path containing S in the given order, then G is k-ordered (hamiltonian) connected. Let $\{u_1, u_2\}$ and $\{u_3, u_4\}$ be distinct pairs of nonadjacent vertices. When $G \neq K_n$ and $G \neq K_n - e$, we define $\sigma'_4(G) = \min\{d_G(u_1) + d_G(u_2) + d_G(u_3) + d_G(u_4)\}$, otherwise set $\sigma'_4(G) = \infty$. In this talk, I will present some sufficient conditions for a graph to be k-ordered connected based on $\sigma'_4(G)$ and, as a main result,if $\sigma'_4(G) \geq 2n + 3k - 10$ $(4 \leq k \leq \frac{n+1}{2})$, then G is k-ordered hamiltonian connected. (Received December 04, 2012)