

UNIVERSITY OF DELAWARE
DEPARTMENT OF MATHEMATICAL SCIENCES
DISCRETE MATHEMATICS SEMINAR

Friday May 7, 2004, 4:00pm, Room 436 Ewing Hall

Edge bounds in nonhamiltonian k -connected graphs

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Let G be a k -connected graph of order n with $|E(G)| > \binom{n-k}{2} + k^2$. Then for $(k = 1, n \geq 3)$, $(k = 2, n \geq 10)$, and $(k = 3, n \geq 16)$, G is hamiltonian. The bounds are tight and for $k = 1$, $(k = 2, n \geq 12)$, and $(k = 3, n \geq 18)$ the extremal graphs are unique. A general bound will also be given for the number of edges in a nonhamiltonian k -connected graph, but the bound is not tight.