1138-05-200   **Guantao Chen**, **Ronald J. Gould** and **Xiaofeng Gu***, Department of Mathematics, University of West Georgia, 1601 Maple St, Carrollton, GA 30118, and **Akira Saito**. *Chorded cycles in dense graphs.*

A cycle of length k is called a k-cycle. A non-induced cycle is called a chorded cycle. Let n be an integer with $n \geq 4$. A graph G of order n is chorded pancyclic if G contains a chorded k-cycle for every integer k with $4 \leq k \leq n$. Cream, Gould and Hirohata have proved that a graph of order n satisfying $\deg_G u + \deg_G v \geq n$ for every pair of nonadjacent vertices u, v in G is chorded pancyclic, with some exceptional graphs. They have also conjectured that if G is hamiltonian, we can replace the degree sum condition with the weaker density condition $|E(G)| \geq \frac{1}{4}n^2$ and still guarantee the same conclusion. We prove this conjecture by showing that if a graph G of order n with $|E(G)| \geq \frac{1}{4}n^2$ contains a k-cycle, then G contains a chorded k-cycle, with some exceptional graphs. We further relax the density condition for sufficient large k. (Received February 09, 2018)