1047-05-141 **Guantao Chen*** (gchen@gsu.edu), Department of Mathematics and Statistics, Georgia Sate University, Atlanta, GA 30303, **Katsuhiro Ota**, Department of Mathematics, Keio University, Yokohama, Japan, **Akita Saito**, Department of Computer Science, Nihon University, Tokyo, Japan, and **Yi Zhao**, Department of Mathematics and Statistics, Georgia State University, Atlanta, GA. *On Even Square of Hamilton Cycles.* Preliminary report.

Let G be a graph. A subgraph H of G is called an *even square hamiltonian cycle* (ESHC) if it contains a hamiltonian cycle $C = v_0v_1 \dots v_{n-1}v_0$ of G and chord v_iv_{i+3} for each $0 \leq i \leq n-1$. Clearly, if G has an ESHC then G contains all possible 2-factors with even components. We prove that there is a positive integer N such that, for a graph G of order n, if n is even and minimum degree $\delta(G) \geq \frac{1}{2}(n + 614)$ then G contains an ESHC. The condition that n is even is necessary. (Received January 25, 2009)