1117-05-320   **Guantao Chen** and **Songling Shan***, songling.shan@vanderbilt.edu. *Vizing's 2-factor*
Conjecture Involving Large Maximum Degree (for consideration).

Let G be a connected simple graph of order n and let $\Delta(G)$ and $\chi'(G)$ denote the maximum degree and chromatic index of G, respectively. Vizing proved that $\chi'(G) = \Delta(G)$ or $\Delta(G) + 1$. Following this result, G is called Δ-critical if $\chi'(G) = \Delta(G) + 1$ and $\chi'(G - e) = \Delta(G)$ for every $e \in E(G)$. In 1968, Vizing conjectured that if G is an n-vertex Δ-critical graph, then the independence number $\alpha(G) \leq n/2$. Furthermore, he conjectured that, in fact, G has a 2-factor. Luo and Zhao showed that if G is an n-vertexΔ-critical graph with $\Delta(G) \geq n/2$, then $\alpha(G) \leq n/2$. More recently, they showed that if G is an n-vertex Δ-critical graph with $\Delta(G) \geq 6n/7$, then G has a hamiltonian cycle, and so G has a 2-factor. We show that if G is an n-vertex Δ-critical graph with $\Delta(G) \geq n/2$, then G has a 2-factor. (Received January 17, 2016)