

1096-05-1716

Emlee W Nicholson* (emlee.nicholson@millsaps.edu) and **Bing Wei** (bwei@olemiss.edu).

Degree conditions for weakly geodesic pancyclic graphs and their exceptions. Preliminary report.

Let G be a graph on n vertices. Let $\sigma_2(G) = \min\{d_G(u) + d_G(v) : u, v \in V(G); uv \notin E(G)\}$ when G is not complete, otherwise set $\sigma_2(G) = \infty$. A graph G is said to be *weakly geodesic pancyclic* if for each pair of vertices $u, v \in V(G)$, every shortest u, v -path lies on a cycle of length k where k is an integer between the length of a shortest cycle containing the u, v -path and n . In this paper, we will show that if $\sigma_2(G) \geq n + 1$ then G is either weakly geodesic pancyclic or belongs to one of the exceptional classes of graphs, which are completely determined. Our results generalize some recent results of Chan et al (Discrete Applied Mathematics 155 (2007)). (Received September 16, 2013)