

1118-05-71

**Aori Nevo\*** (aorinevo@gmail.com), **Douglas Bauer** and **Edward Schmeichel**. *Best Monotone Theorem for 1-binding implies 1-factor.*

Let  $G$  be a graph with vertex set  $V$ . The *neighborhood*  $N(S)$  of  $S \subseteq V$  is the set of vertices adjacent to some vertex of  $S$ . The *binding number* of a graph  $G$ , denoted  $\text{bind}(G)$ , is the minimum of the ratio  $|N(S)|/|S|$ , taken over all non-empty  $S \subseteq V$  such that  $N(S) \neq V$ . A  $k$ -*factor* of a graph is a spanning  $k$ -regular subgraph. In particular, a 1-factor is a perfect matching. We give a vertex degree condition to guarantee that a 1-binding graph contains a 1-factor, which is best in the same sense as Chvátal's well-known hamiltonian degree condition. (Received January 20, 2016)