1124-05-312 **Sadegh Bolouki**, **Olgica Milenkovic**, **Gregory J. Puleo*** (gjp0007@auburn.edu) and **Vida Ravanmehr**. *Doubly Threshold Graphs.*

We introduce *doubly threshold graphs*, a class of graphs generalizing both threshold graphs and unit interval graphs. A graph G is doubly threshold if there are real numbers α, β and a vertex weight function w such that $uv \in E(G)$ if and only if $w(u) + w(v) \geq \alpha$ and $|w(u) - w(v)| \leq \beta$. We give a polynomial-time algorithm to determine whether a graph is doubly threshold, based on finding a special bipartition of the vertices of G. (Received September 12, 2016)