1102-05-5 **Dara Moazzami*** (`dmoazzami@ut.ac.ir`), Prof. Mathematics, University of Tehran, College of Engineering, Department of Engineeg Science, Thehran, Iran. *On the Tenacity Parameter and Complexity of Recognizing Tenacious Graphs.*

The tenacity of a graph G, $T(G)$, is defined by $T(G) = min\{\frac{|S|+\tau(G-S)}{\omega(G-S)}\}$, where the minimum is taken over all vertex cutsets S of G. We define $\tau(G-S)$ to be the number of the vertices in the largest component of the graph $G-S$, and $\omega(G-S)$ be the number of components of $G-S$. A connected graph G is called T-tenacious if $\mid S \mid + \tau(G-S) \geq T\omega(G-S)$ holds for any subset S of vertices of G with $\omega(G-S) > 1$. In this paper we consider the relationship between the minimum degree $\delta(G)$ of a graph and the complexity of recognizing if a graph is T-tenacious. Let $T \geq 1$ be a rational number. We first show that if $\delta(G) \geq \frac{Tn}{T+1}$, then G is T-tenacious. On the other hand, for any fixed $\epsilon > 0$, we show that it is NP-hard to determine if G is T-tenacious, even for the class of graphs with $\delta(G) \geq (\frac{T}{T+1} - \epsilon)n$.

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