

عنوان مقاله:

Solution to the minimum harmonic index of graphs with given minimum degree

محل انتشار:

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خلاصه مقاله:

The harmonic index of a graph G is defined as $H(G) = \sum_{uv \in E(G)} \frac{2}{d(u) + d(v)}$, where $d(u)$ denotes the degree of a vertex u in G . Let $\mathcal{G}(n, k)$ be the set of simple n -vertex graphs with minimum degree at least k . In this work we consider the problem of determining the minimum value of the harmonic index and the corresponding extremal graphs among $\mathcal{G}(n, k)$. We solve the problem for each integer k ($1 \leq k \leq n/2$) and show the corresponding extremal graph is the complete split graph $K_{\{k, n-k\}}^*$. This result together with our previous result which solve the problem for each integer k ($n/2 \leq k \leq n-1$) give a complete solution of the problem.

کلمات کلیدی:

harmonic index, minimum degree, extremal graphs

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