Abstract

Let $G = (V,E)$ be a colored graph with vertex set $V(G)$ and edge set $E(G)$ with chromatic number $(G)$ and $d_i$ is the degree of a vertex $v_i$. The Randic matrix $R(G) = (r_{ij})$ of a graph $G$, is defined by

$$r_{ij} = \frac{1}{\sqrt{d_i d_j}},$$

if the vertices $v_i$ and $v_j$ are adjacent and $r_{ij} = 0$, otherwise. The Randic energy [5] $RE(G)$ is the sum of absolute values of the eigenvalues of $R(G)$. The concept of Randic color energy $E_{RC}(G)$ of a colored graph $G$ is defined and obtained the Randic color energy $ERC(G)$ of some graphs with minimum number of colors.

**Index Terms**

Computer Science

Applied Mathematics

**Keywords**

Colored graph, Randic matrix, Randic color energy