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**Chemical Reaction Driven Ferroconvection in a Porous Medium**

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**Abstract**

A total coloring of a graph G is a combination of vertex and edge colorings of G. In other words, is an assignment of colors to the elements of the graph G such that no two adjacent elements (vertices and edges) receive a same color. The total chromatic number of a graph G, denoted by χ 00(G), is the minimum number of colors that suffice in a total coloring. Total coloring conjecture (TCC) was proposed independently by Behzad and Vizing that for any graph G, ∆(G) + 1 ≤ χ 00(G) ≤ ∆(G) + 2, where ∆(G) is the maximum degree of G. In this paper, we prove TCC for Core Satellite graph, Cocktail Party graph, Modular product of paths and Shrikhande graph.

**Keywords:**

Total coloring, Modular product graph, Core Satellite graph, Cocktail Party graph, Shrikhande graph.

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