AN ATLAS OF THE INDEPENDENT DOMINATION POLYNOMIALS OF GRAPHS OF ORDER ATMOST SIX

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Abstract

The Independent Domination Polynomial of a graph G of order n is the polynomial $D_i(G,x) = \sum_{j=\gamma_i(G)}^{\beta(G)} d(G,j)x^j$, where $D_i(G,j)$ is the number of independent dominating sets of size j in G, $\gamma_i(G)$ is the independent domination number of G and $\beta(G)$ is the maximum independence number of G. The roots of independent domination polynomial is called the independent domination roots. In this paper, we compute the independent domination polynomial and independent domination roots of all graphs of order less than or equal to six and shown in the table.

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