

## عنوان مقاله:

Determinants of adjacency matrices of graphs

## محل انتشار:

فصلنامه معادلات در ترکیبیات، دوره 1، شماره 4 (سال: 1391)

تعداد صفحات اصل مقاله: 8

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## خلاصه مقاله:

We study the set of all determinants of adjacency matrices of graphs with a given number of vertices. Using Brendan McKay's data base of small graphs, determinants of graphs with at most 9 vertices are computed so that the number of non-isomorphic graphs with given vertices whose determinants are all equal to a number is exhibited in a table. Using an idea of M. Newman, it is proved that if  $G$  is a graph with  $n$  vertices,  $m$  edges and  $\{d_1, \dots, d_n\}$  is the set of vertex degrees of  $G$ , then  $\gcd(m, d_1^2)$  divides the determinant of the adjacency matrix of  $G$ , where  $d = \gcd(d_1, \dots, d_n)$ . Possible determinants of adjacency matrices of graphs with exactly two cycles are obtained

## کلمات کلیدی:

Determinant, adjacency matrices of graphs, maximum determinant

## لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/1319399>

