

THE SUN GRAPH IS DETERMINED BY ITS SIGNLESS LAPLACIAN SPECTRUM*

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Abstract. For a simple undirected graph G , the corresponding signless Laplacian matrix is defined as $D(G) + A(G)$ in which $D(G)$ and $A(G)$ are degree matrix and adjacency matrix of G , respectively. The graph G is said to be determined by its signless Laplacian spectrum, if any graph having the same signless Laplacian spectrum as G is isomorphic to G . Also the *Sun graph* of order $2n$ is a cycle C_n with an edge terminating in a pendent vertex attached to each vertex. Among other things, one result in this paper is that the Sun graphs are determined by their signless Laplacian spectrum.

Key words. Sun graph, Signless Laplacian matrix, Cospectral graphs.

AMS subject classifications. 05C50, 05C90.

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