

DETERMINING GRAPHS BY THE COMPLEMENTARY SPECTRUM

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Abstract

The complementary spectrum of a connected graph G is the set of the complementary eigenvalues of the adjacency matrix of G . In this note, we discuss the possibility of representing G using this spectrum. On one hand, we give evidence that this spectrum distinguishes more graphs than other standard graph spectra. On the other hand, we show that it is hard to compute the complementary spectrum. In particular, we see that computing the complementary spectrum is equivalent to finding all connected induced subgraphs.

Keywords: graphs, complementary eigenvalues, graph isomorphism.

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