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Characterizations of Distance-Biregular Graphs and Related Problems

Fiol, Garriga, and Yebra developed a couple of characterizations of distance-regular graphs based on the existence of a polynomial with specific properties. We extend their characterizations to distance-biregular graphs and show how these characterizations can be used to study bipartite graphs with distance-regular halved graphs and graphs with the spectrum of a distance-biregular graph.