

Bled'11 - 7th Slovenian International Conference on Graph Theory

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An odd talk on odd graphs, odd cycles, and odd polynomials

Content :

A generalized odd graph is a distance-regular graph with shortest odd cycles having length $2D+1$ (the odd-girth), where D is the diameter of the graph.

We show that any connected regular graph with $d+1$ distinct eigenvalues and odd-girth $2d+1$ is distance-regular, and in particular that it is a generalized odd graph.

This generalizes a result by Huang and Liu, who showed that a graph with the same spectrum as a generalized odd graph is such a graph.

(joint work with Willem Haemers)

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