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An inequality on the cosines of a tight distance-regular graph. (English) Zbl 0979.05112
Linear Algebra Appl. 325, No. 1-3, 147-159 (2001).

The author considers a distance-regular graph Γ with diameter $d \geq 3$, valency k , and eigenvalues $k = \theta_0 > \theta_1 > \dots > \theta_d$, which is tight in the sense of A. Jurišić, J. Koolen, and P. Terwilliger [J. Algebr. Comb. 12, No. 2, 163-197 (2000; Zbl 0959.05121)]. He obtains an inequality involving the first, second and third cosines associated with θ , when θ is θ_1 or θ_d . (θ_1 and θ_d are involved in the definition of a tight graph.) Also, the author proves that equality is attained if and only if Γ is dual bipartite \mathcal{Q} -polynomial with respect to θ .

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MSC:

05E30 Association schemes, strongly regular graphs

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Keywords:

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