

Divisible design graphs from the symplectic graph $Sp(4, q)$

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A k -regular graph on v vertices is called a *divisible design graph* (DDG) with parameters $(v, k, \lambda_1, \lambda_2, m, n)$ if its vertex-set can be partitioned into m classes of size n such that any two vertices from the same class have λ_1 common neighbours and any two vertices from different classes have λ_2 common neighbours.

Since the introduction in 2011, many DDGs have been constructed. Here we describe some new DDG that can be obtained from the symplectic strongly regular graph $Sp(4, q)$, q odd. The presentation will start with a survey of DDGs.

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