

Graphical Designs

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Abstract

Given a graph Γ a collection of subgraphs \mathcal{B} of Γ is said to be a Γ -Graphical t -design of index λ if

1. whenever $B \in \mathcal{B}$ and $\alpha \in \text{AUT } \Gamma$, then $\alpha(B) \in \mathcal{B}$;
2. every t -edge subgraph of Γ , is contained in exactly λ of the subgraphs in \mathcal{B} .

The Γ -graphical designs of index 1 with $\Gamma = K_n$, $K_{m,n}$ and $K_{\underbrace{n, n, n, \dots, n}_r}$ will be presented.