

Research Ideas on Symmetrical Graph Theory

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1 2-transitive Cayley graphs on non-solvable groups

use factorization of almost simple groups Aut is AS? Aut= GG_α , if G_α is solvable, then use *Li's conjecture*. *Else use both non-solvable*.

2 normal Cayley graph or cover: Li's conjecture in 2008

$G \triangleleft \text{Aut}(\text{Cay}(G, S))$ solved for solvable G

3 construction of 2-arc-transitive non-Cayley normal cover of $K_{2^n, 2^n}$

paper3

4 affine bi-quasiprimitive 2-arc-transitive graph

see Praeger, Ivanov 1993: affine (bi-)primitive 2-arc-trans graph

5 characterize locally 2-arc-transitive graphs of order p^n

paper-two

6 arc-transitive locally quasiprimitive graph

7 Homogenous graphs

works on this area usually published on top journals such as JCTB

7.1 construction of TW type 3-connected homogeneous graph

3-ch

8 Generalized quadrangles