
MARCO BURATTI, Dipartimento di Matematica e Informatica, Università di Perugia, Italy
Cycle decompositions and their automorphism groups

I would like to discuss the following problem.

Determine for which pairs (v, k) there exists a k -cycle system of order v having an automorphism group of a given type (for instance cyclic) with a given action (for instance regular) on vertices.

This problem is often hard but one can consider the following weaker form.

Determine for which pairs (v, k) there exists a k -cycle system of order v having at least one automorphism group (no matter of which type!) with a given action on the vertices.

I will survey some results on the above problems.