

1116-05-1669

Tommaso Traetta* (tommaso.traetta@ryerson.ca). *Cycle decompositions: resolvable or without parallel classes.*

A set of cycles of a simple graph Γ whose vertex-sets partition the vertex-set of Γ is called a *parallel class*. A set of cycles whose edge-sets partition the edge-set of Γ is a *cycle decomposition* of Γ . Such a decomposition is *resolvable* if the cycle-set can be partitioned into parallel classes. The Oberwolfach Problem and the Hamilton-Waterloo Problem are two well-known open problems on the existence of resolvable cycle decompositions. Both have been the subject of an extensive research activity over the last few years.

A problem opposite to the resolvability concerns the construction of cycle decompositions, with a given structure, free from parallel classes. This problem is still open, for example, for Steiner triple systems.

In this talk I will present some recent results on cycle decompositions which are either resolvable or free from parallel classes. (Received September 21, 2015)