

On Classification Problems in Finite Geometry

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In the first part of the seminar, we will consider the problem of classifying combinatorial objects. For our purposes, combinatorial objects are orbits of finite group actions. The theory of classification of them involves the notion of sub-structures. In order to develop efficient algorithms we investigate the relation between the sub-structures and the desired objects under the group action.

In the second part of the seminar, we will apply this classification algorithm to the classification of cubic surfaces with 27 lines over small finite fields.

This seminar will be a board talk.