

Subspaces, nested sets and polytopes

Corrado de Concini

Given a finite arrangement of subspaces in a projective space, one can effectively construct a compactification of the complement X of the union of these subspaces whose boundary can be described in terms of the combinatorics of the arrangement.

We shall describe this construction (obtained a few years ago with Procesi) and how one can use it to obtain informations about the topology of X . In the case of hyperplane arrangements, explicit cycles giving a basis of the homology of X will be described and applications the theory of polytopes will be explained.