

Introduction to hyperplane arrangements

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Heures (Hebdo) 4

Cours 2

Exercices 2

Pratique 0

Total 56

Langue anglais

Semestre Automne

Mode d'évaluation Examen oral

Session Janvier

Format de l'enseignement Cours, exercices

Cursus Type ECTS

Baccalauréat universitaire en mathématique N/A 6

Baccalauréat universitaire en mathématiques N/A 6

Maîtrise universitaire en mathématique N/A 6

Maîtrise universitaire en mathématiques N/A 6

Objectifs

A hyperplane arrangement is a finite set of codimension one affine subspaces (hyperplanes) in a fixed vector space. In the cartesian plane this consists of a finite collection of lines. These seemingly simple objects give rise to interesting combinatorial and geometrical questions - the former based on the intersections of hyperplanes and the latter on the topology and geometry of the complement.

This course is an introduction to the combinatorics and geometry of hyperplane arrangements, with special emphasis on braid arrangements (making a connection to knot theory) and graphical arrangements (making a connection to colouring problems in graph theory). It will be taught in English.

Description

1. Introduction and examples.
2. Partially ordered sets.
3. Intersection posets and characteristic polynomials.
4. Deletion-restriction.
5. Counting regions and Zaslavskys theorem.
6. Braid arrangements.
7. Graphical arrangements.

Divers

Commentaires