

Covering functionals of convex bodies and Hadwiger's covering conjecture

Senlin Wu

School of Mathematics, North University of China

Abstract

Hadwiger's covering conjecture asserts that every convex body (compact convex set having interior points) in the n -dimensional Euclidean space, which is not affinely equivalent to $[0, 1]^n$, can be covered by at most $2^n - 1$ translates of its interior. In 2010, Chuanming Zong proposed a computer-based program to attack this conjecture, where estimating covering functionals of convex bodies plays an important role. In this talk, we will present recent progresses on estimations of covering functionals of compact convex sets.

Keywords: Hadwiger's covering conjecture; covering functional; homothetic covering; Zong's quantitative program.