Abstract

A classical theorem of Siegel gives the average number of lattice points in bounded subsets of R^n. Motivated by this result, Veech introduced an analogue for translation surfaces, now known as the Siegel–Veech formula. However, no such formula is known for flat surfaces with irrational cone angles.

A convex flat cone sphere is a Riemann sphere equipped with a conformal flat metric with conical singularities, all of whose cone angles are less than 2pi. In this talk, I will introduce recent work extending the Siegel–Veech theory to this setting and sketch the main ideas of the proof.