SFB–Seminar

Am Montag, dem 4.11.1996 findet folgender Vortrag statt:

Lattice point problems and Central Limit Theorems

F. Götze

Der Vortrag beginnt um 16 Uhr im Raum V2-205.

Es gibt Kaffee und Tee im Blauen Salon schon um 15:30 Uhr.

Abstract

It is known that there exist a number of similarities between the technical tools developed in Analytic Number Theory by Hardy, Littlewood and Landau and the analytic techniques introduced e.g. by Cramér and Esseen in Probability Theory to study the asymptotic distribution of functionals of large aggregates of vectors of numbers resp. random variables.
Based on recent results, this lecture tries to show connections between classical lattice point problems (like the exact order of the error in the volume approximation of the number of lattice points in a large convex body) and problems on uniform convergence rates in the CLT for classes of sets with smooth boundaries.
For sufficiently high dimensions these results provide optimal *uniform* remainder bounds in lattice point problems and in the CLT improving upon the best available *uniform* uniform estimates by Landau and Esseen.
Furthermore, some open problems for lower dimensions as well as connections to remainder terms in Weyl's law for the asymptotic spectral distribution in Dirichlet boundary value problems will be discussed.

G. Röhrle