

图书基本信息

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内容概要

In 1901 Adolf Hurwitz published a short note showing that Fourier series can be used to prove the isoperimetric inequality for domains in the Euclidean plane, and in a subsequent article he showed how spherical harmonics can be utilized to prove an analogous inequality for three-dimensional convex bodies. A few years later Hermann Minkowski used spherical harmonics to prove an interesting characterization of (three-dimensional) convex bodies of constant width. The work of Hurwitz and Minkowski has convincingly shown that a study of this interplay of analysis and geometry, in particular of Fourier series and spherical harmonics on the one hand, and the theory of convex bodies on the other hand, can lead to interesting geometric results. Since then many articles have appeared that explored the possibilities of such methods.

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