

Steven G. Krantz

# Geometric Analysis of the Bergman Kernel and Metric

With Steven Krantz's usual flair for clarity and motivation, this text provides a masterful and systematic treatment of all the basic analytic and geometric aspects of Bergman's theory including calculation, invariance properties, boundary asymptotics, and asymptotic expansions of the Bergman kernel and metric. This text includes a unique compendium of results with applications to function theory, geometry, partial differential equations, and interpretations in terms of functional analysis. Several of these topics appear here for the first time in book form. Each chapter includes illustrative examples and a collection of exercises which will be of interest both to graduate students and to experienced mathematicians.

Graduate students who have taken courses in complex variables and have a basic background in real and functional analysis will be able to access this textbook. Applicable courses for either main or supplementary text usage include those in complex variables, several complex variables, complex differential geometry, and partial differential equations. Researchers in complex analysis, harmonic analysis, PDEs, and complex differential geometry will also benefit from the thorough treatment of the many exciting aspects of Bergman's theory.

**Mathematics**

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