西北大学数学学科创设100周年
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数领百年 学臻未来

Function theory on quotient domains

报告人：袁原
报告时间：2023 年 12 月 29 日上午 10:00
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报告摘要：Let $f: D \to \Omega$ be a proper holomorphic map between two bounded domains. Ω is a quotient domain of D if there exists a finite group G such that $\Omega = X / G$. The function theory on Ω can be studied by transforming to D. In this way, we may study the Bergman projection, the Szego projection and the $\bar{\partial}$ problem on Ω. In this talk, we will mainly discuss the recent work on the Szego projection.

We will introduce a boundary value problem for holomorphic functions on D which enables us to define the Hardy space on Ω and derive a Bell type transformation formula for the Szego projection on Ω. This definition of the Hardy space is different from the existing one in the literature and is a natural generalization of that on the planar domain considered by Lanzani-Stein. When D is the unit ball or the polydisc, we provide a sufficient condition for the solution to the boundary value problem. We further obtain the sharp L^p estimates for Szego projections on some quotient domains in C^2.

报告人简介：袁原，美国雪城大学副教授、博士生导师。北京大学数学学院获学士学位，美国罗格斯大学获博士学位。曾在约翰霍普金斯大学做希尔维斯特助理教授。研究领域是多复变和复几何，主要研究方向是 Hermite 对称空间上全纯映射的刚性问题及 Kahler 几何中的几何流与典则度量，相关结果发表在 Geom.Funct.Anal.，J.Differential Geom.，J. Math. Pures Appl.，J. Functional Analysis，Math.Z 等国际期刊上。主持美国自然科学基金项目，获美国数学会西蒙斯基金奖励，并在第七届世界华人数学家大会做邀请报告。

邀请人：郝毅红 张奔

欢迎各位老师和同学参加！

西北大学数学学院

2023 年 12 月 25 日