

GRADUATE STUDENT SEMINAR

Guest Speaker: Chase Bender

University of Notre Dame

Date: Monday, September 25, 2023

Time: 5:00 PM

Location: 258 Hurley Bldg

Zoom URL: NA



Lecture Title:

L^p -Regularity of the Bergman Projection on Quotient Domains

Abstract

The Bergman projection of a domain $U \subseteq \mathbb{C}^n$ is the orthogonal projection from its space of L^2 functions to the closed subspace of A^2 (analytic L^2) functions. When the boundary of U is sufficiently regular (e.g. smooth and pseudoconvex) the Bergman projection defines a bounded projection $L^p \rightarrow A^p$ for all $p > 1$. We introduce a class of singular domains for which the Bergman projection is bounded in L^p only for a bounded range of p about 2, and we precisely determine this range. These domains can be realized as quotients of the unit polydisc \mathbb{D}^n by a finite group action, and generalize the classical Hartogs triangle.