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Analysis Seminar

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Geometric analysis on the Diederich–Fornæss index

Abstract:

In this talk, we discuss the Diederich–Fornæss index in several complex variables. A domain $\Omega \subset \mathbb{C}^n$ is said to be pseudoconvex if $-\log(-\delta(z))$ is plurisubharmonic in Ω, where δ is a signed distance function of Ω. The Diederich–Fornæss index has been introduced since 1977 as an index to refine the notion of pseudoconvexity. After a brief review of pseudoconvexity, we discuss this index from the point of view of geometric analysis. We will find an equivalent index associated to the boundary of domains and with it, we are able to obtain accurate values of the Diederich–Fornæss index for many types of domains.

Host: Ming Xiao

Tuesday, February 13, 2018
3:00 PM
AP&M 6218

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