

Finite ball quotients and algebraicity of the Bergman kernel

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The Bergman kernel is an important biholomorphic invariant of domains in \mathbb{C}^n and, more generally, of complex analytic spaces. It is a classical problem to characterize simple “model” domains by properties of their Bergman kernels. Examples include a theorem of Q. Lu and a (now established) conjecture of S.-Y. Cheng that both characterize the ball in \mathbb{C}^n by curvature properties of the Bergman metric. In this talk, we shall discuss a characterization of finite ball quotients by algebraicity of their Bergman kernels. It is interesting to note that there is a difference between the two-dimensional and the higher dimensional case.
