Bergman spaces of real analytic functions

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October 19, 2020

Abstract

It is common knowledge that the algebra of function on a domain in
C generated by z and $\overline{z}$ is dense in the continuous functions, or in almost
any function space. Similar facts are true in several variables. It turns
out that given conditions on the zero set of an entire function $g(z)$, the
algebra generated by z and $(\overline{z})g(z)$ may have a closure which consists
entirely of real analytic functions. One can even guarantee this for Fock
type spaces of L^p functions, if $p > 2$, with bounded point evaluation. The
proof involves standard techniques of CR wedge extension. Simple explicit
examples can be written down. There are theorems in several variables,
but this talk will focus on the one variable case.