

**Meeting:** 999, Nashville, Tennessee, SS 7A, Special Session on Operator Theory on Function Spaces

999-47-190      **Ronald G Douglas\*** (rgd@tamu.edu), Department of Mathematics, Texas A & M University, TAMU - 3368, College Station, TX 77843-3368. *C\*-Algebras and Function Algebras on the Unit Disk*. Preliminary report.

Let a commutative Banach algebra  $A$  act continuously on a Hilbert space  $H$  so that  $H$  is a module over  $A$ . If  $T(H)$  denotes the  $C^*$ -algebra generated by the module multipliers and  $C(H)$  is the commutator ideal for  $T(H)$ , then  $T(H)/C(H) = C(X)$ . A recent result of Davidson and the author shows that  $X$  is a closed subset of the maximal ideal space  $M_A$ . Moreover, for a nice class of modules related to kernel Hilbert spaces, if the action is contractive, then  $X$  must contain the Shilov boundary of  $A$ .

In this talk we look at various natural examples of this phenomenon for  $A = A(D)$ , the disk algebra or  $A = H^\infty(D)$ , the algebra of all bounded holomorphic functions on  $D$ . We are particularly interested in Hilbert modules that are invariant under the conformal self maps of  $D$ . We raise several questions related to the subalgebras that lie between  $H^\infty(D)$  and  $L^\infty(T)$ . (Received August 23, 2004)