

COMPLEX ANALYSIS SEMINAR

FUNCTION ALGEBRAS INVARIANT UNDER GROUP ACTIONS

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ABSTRACT: We will answer a question raised by Ronald Douglas in connection with his work on a conjecture in operator theory due to William Arveson. Let S denote the unit sphere in \mathbb{C}^n . If A is a function algebra on S that contains the ball algebra $A(S)$ and whose maximal ideal space is S , and if A is invariant under the action of the n -torus on S , does it follow that $A = C(S)$? When $n = 1$, Wermer's maximality theorem gives immediately that the answer is yes. Surprisingly, in higher dimensions the answer depends on the dimension. The proof is related to a peak point theorem of John Anderson and the speaker and counterexamples to the peak point conjecture due to Richard Basener and the speaker.

We will also present a related result of a more general nature concerning function algebras that are invariant under a transitive group action.

Date: Thursday, February 25, 2010

Time: 4pm-5pm

Place: UH 4010

Webpage: <http://math.utoledo.edu/~sonmez/complexseminar.html>