UNIVERSAL FUNCTIONS ON $H^\infty(B^n)$

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Abstract. We will report on a fairly recent paper with Pamela Gorkin, whose principal result is a theorem about universal functions on $H^\infty(B^n)$, where B^n is the ℓ_2-ball in $\mathbb{C}^n$. P. S. Chee showed that there is a sequence (L_k) of automorphisms of B^n to which one can associate a universal function $f \in H^\infty(B^n)$, $\|f\| = 1$. That is, the set $\{f \circ L_k \mid k \in \mathbb{N}\}$ is dense in $H^\infty(B^n)$ when this space is endowed with the compact-open topology. Here, each L_k corresponds to a point $z_k \in B^n$.

The topic addressed here is the *size* of the set of such universal functions f. Theorem: There is a sequence $(z_k) \subset B^n$ for which one can find an infinite dimensional closed subspace $V \subset H^\infty(B^n)$ with the following property: Every $f \in V$, $\|f\| = 1$, is universal with respect to the sequence (L_k).

(joint work with Pamela Gorkin)