SEMINARIO DE ANÁLISIS COMPLEJO (COMPLEX ANALYSIS SEMINAR)

An extremal problem for H^p

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Abstract:

For $0 < p \leq \infty$, let H^p denote the classical Hardy space of the unit disc. We consider the extremal problem of maximizing the modulus of the kth Taylor coefficient of a function f in H^p which satisfies $\|f\|_{H^p} \leq 1$ and $f(0) = t$ for some $0 \leq t \leq 1$. In particular, we provide a complete solution to this problem for $k = 1$ and $0 < p < 1$. We also study F. Wiener's trick, which plays a crucial role in various coefficient-related extremal problems for Hardy spaces. This is joint work with Ole Fredrik Brevig and Sigrid Grepstad.