Seminario de análisis matemático y aplicaciones
Analisi matematikoa eta aplikazioak mintegia

Rational approximation, analytic capacity and gratings

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ABSTRACT: Given a compact set $K \subset \mathbb{C}$, $A(K)$ denotes the algebra of continuous functions in K which are holomorphic in the interior of K, and $R(K)$ denotes the closure (with the uniform convergence in K) of the functions which are holomorphic in a neighbourhood of K, so $R(K) \subset A(K)$. In the 60's, A. Vitushkin gave a description of the compact sets $K \subset \mathbb{C}$ for which $R(K) = A(K)$ in terms of the so-called analytic capacity, but there is still no characterization of those compact sets in a geometric way.

In this direction, A. O'Farrell raised the following question: *let* K_1 *and* K_2 *be two compact sets of* $[0,1]$ *and define*

$$K = (K_1 \times [0,1]) \cup ([0,1] \times K_2) \subset \mathbb{C}.$$

Is it true that $R(K) = A(K)$*?* The compact sets of this form are commonly called *gratings*.

In this talk, I will introduce some basic notions on the topic, and I will present an example of a compact set which gives a negative answer to the question above.

LUGAR / LEKUA:
Sala de seminarios de la sección de matemáticas
Matematika ataleko mintegi gela

DÍA Y HORA / EGUNA ETA ORDUA:
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