Seminario de análisis matemático y aplicaciones
Analisi matematikoa eta aplikazioak mintegia

ϵ-approximation and Carleson measure estimates for bounded harmonic functions on domains with boundaries of positive capacity density.

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ABSTRACT: In two recent papers, one by Hofmann, Martell and Mayboroda and a second by Garnett, Mourgoglou and Tolsa, it was proven that if Ω is a domain in $\mathbb{R}^{d+1}$ with d-Ahlfors-David regular boundary, then $\partial\Omega$ is uniformly rectifiable if and only if every bounded harmonic function u on Ω satisfies a Carleson measure estimate for $|\nabla u|^2 \mathrm{dist}(x, \partial\Omega)$ or a related "ϵ-approximation" condition (both to be defined in the talk). We describe partial results about these properties of harmonic functions when $\partial\Omega$ is not assumed to be Ahlfors-David regular but satisfies the weaker capacity density condition.

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