

SEMINARIO - MINICURSO (2 horas)

Weighted inequalities and some applications to
quasiconformal maps

Ignacio Uriarte Tuero

(Michigan State University, East Lansing, MI, EE.UU.)

Martes, 24 de noviembre de 2015, a las 15:00

Aula 520, Módulo 17, Departamento de Matemáticas

Universidad Autónoma de Madrid

Resumen:

I will describe briefly the theory of Muckenhoupt A_p weights and some relations to quasiconformal maps (such as Gehring's lemma and the quasiconformal Jacobian problem). Then I will move onto a weighted inequality for the Beurling transform that does not follow from the A_p theory, but which was crucial for the proof of Astala's conjecture on distortion of Hausdorff measure under quasiconformal maps, and explain briefly the proof of that conjecture. Then I will move onto the two weight problem for singular integrals, and give some background and ideas regarding the current knowledge on that problem (e.g., as related to the Hilbert transform and Riesz transforms).