

Weighted maximal inequalities on hyperbolic spaces

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In this talk we present a weight theory in the setting of hyperbolic spaces. Our starting point is a variant of the well-known endpoint Fefferman-Stein inequality for the centered Hardy-Littlewood maximal function. This inequality generalizes, in the hyperbolic setting, the weak type $(1, 1)$ estimate obtained by Strömberg (1981) who answered a question posed by Stein and Wainger (1978) in the context of non-compact symmetric spaces. Our approach is based on a combination of geometrical arguments and the techniques used in the discrete setting of regular trees by Naor and Tao (2010). This talk is based in a joint work with J. Antezana.

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