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Matrix weights: On the way to the linear bound

Abstract

In recent years, the attempts to prove sharp bounds for Calderon-Zygmund operators on weighted L^p spaces in terms of the A_p-characteristic of the weight has been an im- portant driving force in Harmonic Analysis. After the work of many authors, this culminated with the proof of the conjectured linear bound for $p = 2$ for all Calderon-Zygmund operators by Tuomas Hytönen in 2010.

Recently, the question of the validity of the linear bound for all Calderon-Zygmund operators in the matrix-weighted setting has attracted some interest. In the talk, I want to present the reduction of this question to the case of Haar multipliers and dyadic paraproducts. I also want to talk about the remaining obstacles, some of which have recently been resolved, and focus on the matrix techniques being used.

This is joint work with Andrei Stoica.

Talk time: 2016-07-18 09:40— 2016-07-18 10:30
Talk location: Brown Hall 100

Session: Plenary Talk