Best constants via rearrangements and related topics

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ABSTRACT:

A few years ago we managed to show that a suitable rearrangement inequality for the non-centered Hardy-Littlewood maximal operator leads to evaluating best constants for this operator over L^p, weak-L^p, and beyond, e.g., on some families of Lorentz spaces. In this talk we describe our attempts to apply the same approach to the Hilbert transform and other linear and sub-linear operators, obtaining some partial results and raising some new questions.