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Local bounds for singular Brascamp-Lieb forms with cubical structure

In this talk we discuss the boundedness properties of certain multilinear forms that involve a Calderón-Zygmund kernel and possess a cubical structure. Special instances of these forms have found applications in enumerative combinatorics and ergodic theory. Passing through local and sparse bounds, we prove a range of L^p bounds for these forms, extending thus an earlier result by Durcik and Thiele which only allowed for one particular tuple of exponents. New in this context is the use of a modified strong maximal function. This is a joint work with P. Durcik and C. Thiele.