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*1. News on multi-parameter commutators*

We characterize boundedness of iterated commutators of multiplication by a symbol function and tensor products of Hilbert and Riesz transforms by means of a two-sided estimate. The upper estimate utilises work by Martikainen on shift decomposition of Journé operators. The lower estimate (the difficult part) uses a mix of operator theory through Hankel and Toeplitz forms and a geometric construction on products of spheres.

*2. News on weighted estimates*

The talk will cover an array of recent progress in weighted theory. We discuss the sharp weighted estimate for non-kernel operators obtained through sparse domination. We discuss very recent progress in the matrix  $A_2$  conjecture through sparse operators. Last, we present a result in stochastic analysis using Bellman functions: the sharp weighted estimate of any pair of differentially subordinate cadlag martingales with values in Hilbert space.