

Riesz-Schur transforms

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Fourier multipliers are closely related to Schur multipliers with Toeplitz symbols. Classical results from Fourier analysis are recently finding extensions in the more general setting of nonToeplitz Schur multipliers. In this talk, I will report on recent results about nonToeplitz Riesz transforms. This refines Grothendieck-Haagerup's endpoint criterion with a new condition for the Schatten p -boundedness of Schur multipliers and strengthens Potapov/Sukochev's solution of Arazy's conjecture. Our approach is much simpler than previous harmonic analysis and probabilistic ones. As an application, we find a very simple proof of recent criteria for Schur multipliers of Hörmander-Mikhlin and Marcinkiewicz type.

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