Transfer of Fourier Multipliers into Schur Multipliers and Sumsets in a Discrete Group

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Abstract. We inspect the relationship between relative Fourier multipliers on noncommutative Lebesgue–Orlicz spaces of a discrete group \( \Gamma \) and relative Toeplitz-Schur multipliers on Schatten–von-Neumann–Orlicz classes. Four applications are given: lacunary sets, unconditional Schauder bases for the subspace of a Lebesgue space determined by a given spectrum \( \Lambda \subseteq \Gamma \), the norm of the Hilbert transform and the Riesz projection on Schatten–von-Neumann classes with exponent a power of 2, and the norm of Toeplitz Schur multipliers on Schatten–von-Neumann classes with exponent less than 1.

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