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Shahaf Nitzan* (shahaf.nitzan@math.gatech.edu), **Michael Northington** and **Alex Powell**. *Uncertainty principles for Fourier multipliers*.

We study the possible regularity properties of a function w , which has a zero on the d dimensional torus, and whose reciprocal $1/w$ is a $(2, q)$ Fourier multiplier. Several extensions of this problem are also discussed.

We then relate this question to problems of the uncertainty type, determining the best possible time-frequency localization of generators of certain Gabor systems, and generators of certain shift invariant spaces. (Received January 21, 2020)