On the global properties of Fourier multipliers in the nonharmonic analysis setting

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In this talk we investigate some global properties of Fourier multipliers in the setting of nonharmonic analysis of boundary value problems. We give necessary and sufficient conditions for a Fourier multiplier to be globally hypoelliptic and also to be globally solvable. As an application, we consider operators on $[0,1]^2$ with non-periodic boundary conditions and we obtain results that extend what is already known in the periodic case.