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Uncertainty Principle for Gabor Transform on nilpotent Lie Groups.

Abstract

We define and prove an analog of Heisenberg uncertainty inequality for Gabor transform in the setup of connected, simply connected nilpotent Lie groups. When G is connected nilpotent and has a non-compact center, a proof of such an analog is given for functions in the Schwartz space of G . The representation theory and a localized Plancherel formula are fundamental tools in the proof of our results.