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CONICAL SQUARE FUNCTIONS AND NON-TANGENTIAL MAXIMAL FUNCTIONS WITH RESPECT TO THE GAUSSIAN MEASURE

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Abstract

We study, in $L^1(\mathbb{R}^n;\gamma)$ with respect to the gaussian measure, non-tangential maximal functions and conical square functions associated with the Ornstein-Uhlenbeck operator by developing a set of techniques which allow us, to some extent, to compensate for the non-doubling character of the gaussian measure. The main result asserts that conical square functions can be controlled in L^1-norm by non-tangential maximal functions. Along the way we prove a change of aperture result for the latter. This complements recent results on gaussian Hardy spaces due to Mauceri and Meda.

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