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On the maximal operator for the Ornstein-Uhlenbeck semigroup

Abstract. Let $(\mathcal{H}_t)_{t>0}$ be the Ornstein-Uhlenbeck semigroup associated to the operator $\mathcal{L} = \Delta + Bx \cdot \nabla$. Our aim is to investigate the boundedness on L^p spaces of the maximal operator $f \mapsto \mathcal{H}^* f = \sup\{|\mathcal{H}_t f| : t > 0\}$. We shall be working with the Gaussian measure γ on $\mathbb{R}^d$. First we will give a sketch of the proof of the weak type 1 estimate for the maximal operator associated to the symmetric Ornstein-Uhlenbeck semigroup.