

FRACTIONAL CAFFARELLI-KOHN-NIRENBERG TYPE INEQUALITIES ON THE HEISENBERG GROUP

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Abstract:

In 1984, L. Caffarelli and his coauthors established a family of interpolation inequalities, now known as Caffarelli-Kohn-Nirenberg (CKN) inequalities, which includes the well known Sobolev inequality and Hardy's inequality as particular cases. In this talk first we will briefly discuss the classical and fractional Sobolev, Hardy's and CKN inequalities for Euclidean spaces. Then we will discuss our recent results concerning fractional CKN type inequalities on the Heisenberg group, which includes the fractional Sobolev and Hardy type inequalities established by Adimurthi and Arka Mallick. Our inequalities also give an improvement on the range of indices for the Hardy type inequality established by them.