

I will discuss the definition of fractional sub-Laplacian in Carnot groups by generalizing, in the framework of some non-commutative groups, the approach used by L. Caffarelli and L. Silvestre to prove the Harnack inequality in the Euclidean setting. In particular, I will sketch a proof of the Harnack inequality for positive solutions of fractional sub-Laplacians equations in Carnot groups.