SCHAUDER ESTIMATES AT THE BOUNDARY IN THE HEISENBERG GROUP

GIOVANNA CITTI

ABSTRACT. As it is well known Schauder estimates at the boundary is the main tool for studying regularity of solutions of linear Dirichlet problems and existence for the associated non linear problem. Unfortunately the techniques known in the Riemannian setting are based on a reflection tecnique, which can not be applied in subriemannian setting. A tecnique introduced by Jerison for the Heisenberg group is based on the Fourier transform and can not be applied in general subriemannian setting. Here we introduce a new tecnique, based on the properties of the fundamental solution and its restriction on the boundary, which can be applied in very general subriemannian situations. For simplicity we present here the proof in the special setting of the non characteristic points of the Heisenberg group $\mathbb{H}^n$, with $n > 1$.