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**Luca Capogna\*** (lcapogna@uark.edu), Department of Mathematics, University of Arkansas, Fayetteville, AR 72701. *Regularity of vanishing viscosity intrinsic minimal graphs in Heisenberg groups*. Preliminary report.

Minimal surfaces in the sub-Riemannian geometry of the Heisenberg group are critical points of the sub-Riemannian area functional. In a recent paper, Cheng, Hwang and Yang construct Lipschitz minimizers via a Riemannian approximation technique. In this talk I will describe a theorem due to Citti, Manfredini and myself, proving that away from the characteristic set such minimizers are smooth if the dimension of the Heisenberg group is not three. In particular we prove that any Lipschitz intrinsic graphs in the Heisenberg groups  $H_n$ , with  $n \geq 1$ , which are vanishing viscosity solutions of the minimal surface equation are smooth. I will also describe some regularity results for vanishing viscosity solutions in the first Heisenberg group  $n = 1$  (also in collaboration with Citti and Manfredini). (Received February 04, 2008)