

# REGULARITY OF MINIMAL SURFACES IN THE HEISENBERG GROUP

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ABSTRACT. I'll present a joint work with L. Capogna and M. Manfredini, on the regularity of viscosity solutions of minimal surface equation in the Heisenberg group.

We assume that the solutions are locally represented as intrinsic graphs, so that the minimal surface equation is represented in term of non linear vector fields.

We prove that viscosity solutions are smooth, in an intrinsic sense. In the Heisenberg group  $H^n$  with  $n > 1$  this means that the solution is smooth in the usual sense.

In  $H^1$  the solutions are foliated in smooth curves.

Applications to visual perception will be presented.