

Ann. Scuola Norm. Sup. Pisa Cl. Sci. (5)
Vol. VIII (2009), 391-415

Convex isoperimetric sets in the Heisenberg group

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Abstract. We characterize convex isoperimetric sets in the Heisenberg group. We first prove Sobolev regularity for a certain class of \mathbb{R}^2 -valued vector fields of bounded variation in the plane related to the curvature equations. Then we show that the boundary of convex isoperimetric sets is foliated by geodesics of the Carnot-Carathéodory distance.

Mathematics Subject Classification (2000): 49Q20 (primary); 53C17 (secondary).