

NOTE ON COAREA FORMULAE IN THE HEISENBERG GROUP

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Abstract

We show a first nontrivial example of coarea formula for vector-valued Lipschitz maps defined on the three dimensional Heisenberg group. In this coarea formula, integration on level sets is performed with respect to the 2-dimensional spherical Hausdorff measure, built by the Carnot-Carathéodory distance. The standard jacobian is replaced by the so called “horizontal jacobian”, corresponding to the jacobian of the Pansu differential of the Lipschitz map. Joining previous results, we achieve all possible coarea formulae for Lipschitz maps defined on the Heisenberg group.

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