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Abstracts

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Quasiregular Mappings of Two-Step Carnot Groups

For quasiregular mappings of two-step Carnot groups endowed with the Carnot-Caratheodory metric, we establish their main properties such as the morphism of solutions to associated subelliptic equations, local Hölder continuity, $\mathcal{P}$-differentiability, and a change of variable formula for the Lebesgue integral. Under the assumption of existence of a C^1-smooth singular solution to the p-sub-Laplacian we prove openness, discreteness, preservation of orientation, and a limit theorem for sequences of quasiregular mappings. The main tools are mollification of mappings on a Carnot group and pull-back of horizontal differential forms under (weakly) contact mappings. For quasiregular mappings of the Heisenberg groups, we prove the Liouville theorem about 1-quasiregular mappings and the local homeomorphism theorem for small dilatations.

References

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