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Deformation of discontinuous groups acting on $(H_{2n+1} \times H_{2n+1})/\Delta$

Let H_{2n+1} be the $(2n + 1)$-dimensional Heisenberg group and Δ the diagonal subgroup of the product $P := H_{2n+1} \times H_{2n+1}$. Given any discontinuous group Γ for P/Δ, we study some local geometric and topological features of the associated deformation space $\mathcal{T}(\Gamma, P; P/\Delta)$ such as rigidity, stability and Hausdorffness. In particular, we show that $\mathcal{T}(\Gamma, P; P/\Delta)$ is a Hausdorff space if and only if Γ is a cocompact abelian discontinuous group for P/Δ.

Keywords: Heisenberg group, proper action, free action, rigidity, stability.

MSC: 22E27; 32G05