PSEUDO-RIEMANNIAN METRICS ON COTANGENT BUNDLE OF HEISENBERG GROUP AND THEIR RELATION TO THE HYPERBOLIC CONICS

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ABSTRACT. The cotangent bundle of Heisenberg group is 6-dimensional, 2-step nilpotent group with 3-dimensional center. In this work we classify, up to automorphisms, left-invariant pseudo Riemannian metrics on the cotangent bundle of Heisenberg group. Particularly interesting is case of metrics with Lorentzian central restriction. The classification of such metrics is directly related to the classification of conics in the hyperbolic plane.

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