

## GEOMETRY OF COTANGENT BUNDLE OF HEISENBERG GROUP

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ABSTRACT. In this talk the classification of left-invariant Riemannian metrics, up to the action of the automorphism group, on cotangent bundle of  $(2n+1)$ -dimensional Heisenberg group is presented. Also, it is proved that the complex structure on that group is unique and the corresponding pseudo-Kähler metrics are described and shown to be Ricci flat. It is well known that this algebra admits an ad-invariant metric of neutral signature. Here, the uniqueness of such metric is proved. Finally, the classification of sub-Riemannian structures, under the Lie group automorphisms, is obtained.