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Generalized Gelfand Pairs Attached to some Extensions of Heisenberg Groups

We show new examples of generalized Gelfand pairs of the form (K, N) by considering a family of 3-step nilpotent Lie groups $N := S \ltimes H$, where H is the $(2n + 1)$ dimensional Heisenberg group, S is the subgroup of $(n \times n)$ symmetric matrices and K is a non compact, unimodular subgroup of automorphism of N . Also, we determine the automorphism group of N .

Keywords: Generalized Gelfand pairs, metaplectic representation.

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