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ON SOME STRUCTURAL PROPERTIES OF SEMIDIRECT SUMS OF $\mathfrak{so}(3)$ AND ABELIAN LIE ALGEBRAS*

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Abstract. Various structural properties of semidirect sums of the rotation Lie algebra of rank one and an Abelian algebra described in terms of real representations with at most two irreducible constituents are obtained. The stability properties of these semidirect sums are studied by means of the cohomological and the Jacobi scheme methods.

MSC: 17B05, 17B56, 17B99

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^{*}Dedicated to the memory of Robert Lutz.