ON SOME LIE GROUPS CONTAINING SPIN GROUP IN CLIFFORD ALGEBRA

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Abstract.   In this paper we consider some Lie groups in complexified Clifford algebras. Using relations between operations of conjugation in Clifford algebras and matrix operations we prove isomorphisms between these groups and classical matrix groups (symplectic, orthogonal, linear, unitary) in the cases of arbitrary dimension and arbitrary signature. Also we obtain isomorphisms of corresponding Lie algebras which are direct sums of subspaces of quaternion types. Spin group is a subgroup of all considered groups and it coincides with one of them in the cases $n \leq 5$. We present classical matrix Lie groups that contain spin group in the case of arbitrary dimension.

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