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Automorphisms of semisimple real Lie algebras. (English. Russian original) Zbl 0707.17011
Funct. Anal. Appl. 23, No. 2, 156-157 (1989); translation from *Funkts. Anal. Prilozh.* 23, No. 2, 84-85 (1989).

Consider a simple complex Lie algebra \mathfrak{g}^c with real form \mathfrak{g} . Let $Aut_e \mathfrak{g}^c$ be the group of all automorphisms of \mathfrak{g}^c generated by the elements of the form $\exp \operatorname{ad} x$ with nilpotent $\operatorname{ad} x$. Let $Aut_0 \mathfrak{g}$ be the inverse image of $Aut_e \mathfrak{g}^c$ with respect to the map $Aut \mathfrak{g} \rightarrow Aut \mathfrak{g}^c$, $g \mapsto g \otimes 1$, and $Aut_0(\mathfrak{g}, \mathfrak{h})$ be the subgroup of $Aut_0 \mathfrak{g}$ preserving the Cartan subalgebra $\mathfrak{h} \subset \mathfrak{g}$. The author deduces a necessary and sufficient condition for certain pairs of $Aut_0(\mathfrak{g}, \mathfrak{h})$ to be conjugate.

Reviewer: [I.Kolář](#)

MSC:

- 17B40 Automorphisms, derivations, other operators for Lie algebras and super algebras
- 17B20 Simple, semisimple, reductive (super)algebras

Keywords:

[quasi-inner automorphisms](#); [conjugacy classes](#)

Full Text: [DOI](#)

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