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The holonomy Lie algebras of neutral metrics in dimension four. (English) Zbl 1016.53039
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Summary: The Lie algebra isomorphism between $su(1,1) \times su(1,2)$ and $o(2,2)$ is used to obtain a list of subalgebras of the latter. The resulting list of 32 subalgebras is then examined on a case by case basis to see if each can be the Lie algebra of the holonomy group of a neutral metric in four dimensions. The conclusions, taken in conjunction with previously known results, furnish a classification of such Lie subalgebras of $o(2,2)$, with only one case remaining unresolved.

MSC:

- 53C29 Issues of holonomy in differential geometry
- 53C50 Global differential geometry of Lorentz manifolds, manifolds with indefinite metrics
- 17B05 Structure theory for Lie algebras and superalgebras

Cited in **1** Review
Cited in **19** Documents

Keywords:

subalgebras; Lie algebra; holonomy group; neutral metric

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