

Lie triple systems and invariant scalar products

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Abstract: A bilinear form on a Jordan (resp. Lie) triple system which is symmetric invariant and non degenerate is called, with misuse of language, invariant scalar product. A Jordan (resp. Lie) triple system endowed with such a bilinear form is said to be pseudo-Euclidean (resp. quadratic).

we aim to:

show that the set of pseudo-Euclidean Jordan (resp. quadratic Lie) triple systems contains strictly solvable and semi-simple Jordan (resp. Lie) triple systems.

give two new characterizations of semisimple Jordan triple systems.

describe quadratic Lie triple systems by using the notion of double extensions.