Isidro, José M.
Jordan *-triple derivations on the exceptional Cartan factors. (English) Zbl 07441509
J. Algebra 592, 18-35 (2022)

Summary: Let $U$ be any of the two exceptional Cartan factors $V$ and $VI$ and let $\delta : U \rightarrow U$ be a Jordan *-triple derivation of $U$, that is, a map (neither linearity nor continuity of $\delta$ is assumed) that satisfies the functional equation $\delta (a b^* a) = \{ \delta (a) b^* a \} + \{ a \delta (b^* a) \} + \{ a b^* \delta (a) \}$, $(a, b) \mapsto \{ a b^* a \}$ stands for the Jordan triple product in $U$. We give an explicit representation of $\delta$ as certain multipliers on $U$ and prove that $\delta$ automatically is a continuous real linear map on $U$. This gives a new description of the real Banach Lie algebra of Jordan triple derivations of $U$.

MSC:
47B49 Transformers, preservers (linear operators on spaces of linear operators)
46K15 Hilbert algebras

Keywords:
$JB^*$-triples; exceptional Cartan factors; $JB^*$-triple derivations; Banach-Lie groups

Full Text: DOI

References:

This reference list is based on information provided by the publisher or from digital mathematics libraries. Its items are heuristically matched to zbMATH identifiers and may contain data conversion errors. It attempts to reflect the references listed in the original paper as accurately as possible without claiming the completeness or perfect precision of the matching.