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On Jordan ideals and derivations in rings with involution

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Abstract: Let R be a 2-torsion free $*$-prime ring, d a derivation which commutes with $*$ and J a $*$-Jordan ideal and a subring of R. In this paper, it is shown that if either d acts as a homomorphism or as an anti-homomorphism on J, then $d = 0$ or $J \subseteq Z(R)$. Furthermore, an example is given to demonstrate that the $*$-primeness hypothesis is not superfluous.

Keywords: $*$-prime rings, Jordan ideals, derivations
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