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On ideals of Prime Rings with (σ, τ) - Derivations

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Abstract: Let R be a prime ring. Let σ, τ be two homomorphisms and d be a (σ, τ) -derivation of R . The purpose of this paper is to prove two results: (i) If $\text{char } R \neq 2$, U is a non-zero ideal of R , σ is surjective such that $\sigma(U) \neq 0$, τ is an automorphism and $[d(U), d(U)]_{\sigma, \tau} = 0$, then $\sigma^2 = \tau^2$ and $\sigma\tau = \tau\sigma$. (ii) Under the assumptions that either $\text{char } R = 0$ or $\text{char } R > \max\{2, n\}$, U is a non-zero right ideal, and σ, τ are automorphisms of R , suppose $[d(x), x^n]_{\sigma, \tau} \subseteq C_{\sigma, \tau}$ for all $x \in U$, then $\sigma = \tau$.

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