

Prime gamma near-rings with derivations

ABSTRACT

Let N be a prime Γ near-ring with the center $Z(N)$. The objective of this paper is to study derivations on N . We prove two results: (a) Let N be 2-torsion free and let D_1 and D_2 be derivations on N such that D_1D_2 is also a derivation. Then $D_1 = 0$ or $D_2 = 0$ if and only if $[D_1(x), D_2(y)]\alpha = 0$ for all $x, y \in N, \alpha \in \Gamma$; b) Let n be an integer greater than 1, N be $n!$ -torsion free, and D be a derivation with $D^n(N) = \{0\}$. Then $D(Z(N)) = \{0\}$.

Keyword: Gamma ring; Commutative ring; Non commutative ring; Derivation