

COMMUTATIVITY OF PRIME RINGS WITH SYMMETRIC BIDERIVATIONS

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Abstract

The present paper shows some results on the commutativity of R : Let R be a prime ring and for any nonzero ideal I of R , if R admits a biderivation B such that it satisfies any one of the following properties (i) $B([x, y], z) = [x, y]$, (ii) $B([x, y], m) + [x, y] = 0$, (iii) $B(xoy, z) = xoy$, (iv) $B(xoy, z) + xoy = 0$, (v) $B(x, y) \circ B(y, z) = 0$, (vi) $B(x, y) \circ B(y, z) = xoz$, (vii) $B(x, y) \circ B(y, z) + xoy = 0$, for all $x, y, z \in R$, then R is a commutative ring.

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