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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) $B(x,y)oB(y,z) = 0$, (vi)$B(x,y)oB(y,z) = xoz$, (vii) $B(x,y)oB(y,z) + xoy = 0$, for all $x,y,z \in R$, then R is a commutative ring.

Keywords: prime ring, biderivation, commutativity and ideals.

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