Discussiones Mathematicae
General Algebra and Applications 35 (2015) 53–53
doi:10.7151/dmgaa.1232

SOME RESULTS OF REVERSE DERIVATION ON PRIME AND SEMIPRIME Γ-RINGS

Neshtiman Nooraldeen Suliman

Department of Mathematics
College of Education
Salahadeen University
Erbil, Iraq

e-mail: vananesh@gmail.com

Abstract

In the present paper, it is introduced the definition of a reverse derivation on a Γ-ring M. It is shown that a mapping derivation on a semiprime Γ-ring M is central if and only if it is reverse derivation. Also it is shown that M is commutative if for all $a, b \in I$ (I is an ideal of M) satisfying $d(a) \in Z(M)$, and $d(a \circ b) = 0$.

Keywords: Prime Γ-rings, semiprime Γ-rings, derivations, reverse derivations.

2010 Mathematics Subject Classification: 16N60, 16W25, 16W99.

References

[1] W.E. Barness, *On the Γ-rings of Nobusawa*, Pacific J. Math. **18** (3) (1966) 411–422.

[2] M. Bresar and J. Vukman, *On some additive mappings in rings with involution*, Aequation Math. **38** (1989) 178–185. doi:10.1007/BF01840003

[3] Md. F. Hoque and A.C. Paul, *On centralizers of semiprime gamma rings*, Intr. Math. Forum **6** (13) (2011) 627–638.

[4] S. Kyuno, *On prime gamma rings*, Pacific J. Math. **75** (1978) 185–190.

[5] L. Luh, *On the theory of simple Gamma rings*, Michigan Math. J. **16** (1969) 576–584. doi:10.1307/mmj/1029000167

[6] N. Nobusawa, *On a generalization of the ring theory*, Osaka J. Math. **1** (1964) 81–89.

[7] M. Sapanci and A. Nakajima, *A note on gamma rings*, Turkish J. Math. **20** (1996) 463–465.

[8] M. Soytürk, *The commutativity in prime gamma rings with Derivation*, Turkish J. Math. **18** (1994) 149–155.

Received 15 November 2014
Revised 17 March 2015