

Year: 2011

Vol.: 78

Fasc.: 3-4

Title: Some results concerning additive mappings and derivations on semiprime rings

Author(s): Ajda Fošner and Joso Vukman

Let R be a 2-torsion free semiprime ring and let $f : R \rightarrow R$ be an additive mapping satisfying the relation $[f(x), x^2] = 0$ for all $x \in R$. We prove that in this case $[f(x), x] = 0$ holds for all $x \in R$. This result makes it possible to prove the following result. Let R be a 2-torsion free semiprime ring and let $D, G : R \rightarrow R$ be derivations. Suppose that the relation $[D^2(x) + G(x), x^2] = 0$ holds for all $x \in R$. Then D and G both map R into its center.

Address:

Ajda Fošner
Faculty of Management
University of Primorska
Cankarjeva 5
SI-6104 Koper
Slovenia

Address:

Joso Vukman
Department of Mathematics and Computer Science
Faculty of Natural Sciences and Mathematics
University of Maribor
Koroška cesta 160
SI-2000 Maribor
Slovenia