Summary: In this paper, the Jordan derivations, the derivations and the anti-derivations on addition cancelable generalized matrix algebras over a commutative semiring are studied, and the characteristics of Jordan derivations, derivations and anti-derivations are presented. Furthermore, it is proved that every Jordan derivations on a generalized matrix algebra can be expressed as the sum of a derivation and an anti-derivation under certain conditions.

MSC:
16W25 Derivations, actions of Lie algebras
16Y60 Semirings

Keywords:
semiring; generalized matrix algebra; Jordan derivation; anti-derivation

Full Text: DOI