MULTIPLICATIVE GENERALIZED LIE
n–DERIVATIONS ON COMPLETELY DISTRIBUTIVE
COMMUTATIVE SUBSPACE LATTICE ALGEBRAS

FEI MA* AND MIN YIN

Abstract. Let $\text{Alg} \mathcal{L}$ be a completely distributive commutative subspace lattice algebra and let $\delta : \text{Alg} \mathcal{L} \rightarrow \text{Alg} \mathcal{L}$ be a nonlinear map. It is shown that $\delta$ is a multiplicative generalized Lie $n$-derivation on $\text{Alg} \mathcal{L}$ with an associated multiplicative generalized Lie $n$-derivation $d$ if and only if $\delta(A) = \psi(A) + \xi(A)$ holds for every $A \in \text{Alg} \mathcal{L}$, where $\psi : \text{Alg} \mathcal{L} \rightarrow \text{Alg} \mathcal{L}$ is an additive generalized derivation and $\xi : \text{Alg} \mathcal{L} \rightarrow \mathbb{Z}(\text{Alg} \mathcal{L})$ is a central-valued map vanishing on each $(n-1)$-th commutator $p_n(A_1, A_2, \cdots, A_n)$.

Keywords and phrases: Multiplicative generalized Lie $n$-derivations, multiplicative Lie $n$-derivations, completely distributive commutative subspace lattice algebras, strong convergence.

REFERENCES


