σ-Anti-automorphisms on Graded Primitve Associative Algebras

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Abstract

Let G be a group and $\mathbb{F}$ a field. In [1], Bahturin, Bresar and Kochetov characterized primitive G-graded associative rings ($\mathbb{F}$-algebras) with a minimal G-graded left ideal and used this characterization to study graded anti-automorphisms. Afterwards, in [3], to G an abelian group and $\sigma : G \times G \longrightarrow \mathbb{F}^{\times}$ an anti-symmetric 2-cocycle, K. Sousa and I. Sviridova presented a similar characterization to primitive G-graded associative rings ($\mathbb{F}$-algebras) with a minimal G-graded right ideal in terms of σ-adjoints related to nondegenerate graded bilinear forms.

In this talk we use the characterization of Sousa and Sviridova and present a description of σ-anti-automorfismos on G-graded associative $\mathcal{S}$-algebras with a minimal G-graded right ideal when $\mathcal{S}$ is an unitary commutative associative ring with trivial G-grading, $\mathbb{U}(\mathcal{S})$ is the set of all invertible elements of $\mathcal{S}$ and $\sigma : G \times G \longrightarrow \mathbb{U}(\mathcal{S})$ is an anti-symmetric 2-cocycle. This work is joint with I. Sviridova.

References

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