

Combinatorial structures associated with low dimensional second class of non-Lie filiform Leibniz algebra

ABSTRACT

In this talk we propose a graphical representation of some classes of Leibniz algebras. With each of algebra from these classes we associate a graph. This assignment enables us to reformulate some structural properties of the Leibniz algebras in terms of some conditions for the graphs. The talk focuses on a so-called filiform Leibniz algebras. It is well-known that this class is split into three subclasses called first, second and third class denoted, in dimension n over a field K , by $FLbn(K)$, $SLbn(K)$ and $TLbn(K)$, respectively. In this article, we concern more on the combinatorial structures associated with $SLbn(K)$ in low-dimensions.

Keyword: Leibniz algebras; Filiform Leibniz algebras; Graph theory