Cohomology Ring of $n$-Lie Algebras

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Abstract

Natural graded Lie brackets on the space of cochains of $n$-Leibniz and $n$-Lie algebras are introduced. It turns out that these brackets agree under the natural embedding introduced by Gautheron. Moreover, $n$-Leibniz and $n$-Lie algebras turn to be canonical structures for these brackets in a similar way in which associative algebras (respectively, Lie algebras) are canonical structures for the Gerstenhaber bracket (respectively, Nijenhuis-Richardson bracket). This allows to define the corresponding cohomology operators and graded Lie algebra structures on the cohomology spaces in an uniform simple way by means of square zero elements.

References


