

# ON THE HOMOLOGICAL PROPERTIES OF THE UNIVERSAL ENVELOPING LEIBNIZ ALGEBRA

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We present a study of graded Leibniz algebras and its universal enveloping Leibniz algebra. We prove that the universal enveloping Leibniz algebra of a finite dimensional graded Leibniz algebra is a quasi-Koszul algebra or an inhomogeneous Koszul algebra. We presented an immersion of the derivation set of a Leibniz algebra with maximum length into the set of derivations of its universal enveloping Leibniz algebra to study the first homology group of those wild type associative algebras.

We will follow Loday and Pirashvili's work and Green and Martinez-Villa's works.

## REFERENCES:

1. E.L. Green and R. Martinez-Villa, *Koszul and Yoneda algebras*, Canadian Math. Soc. (1994), 18, 247-298.
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3. J-L. Loday and T. Pirashvili, *Universal enveloping algebras of Leibniz algebras and (co)-homology*, Math Ann. (1993), 296, 139-158.