Construction and Properties of Classical Koszul Bracket on Differential Forms and Its Generalization

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In Poisson geometry, a bracket structure on the algebra of differential forms on a manifold M is given by a Poisson structure on M. This bracket structure has similar properties with Schouten bracket on multivector fields and is known as Koszul bracket which is introduced by Koszul in 1985. Then in 2008, H. Khudaverdian and Th. Voronov introduced Higher Koszul bracket which is generalization of classical Koszul bracket on psedodifferential forms on a supermanifold M with homotopy Poisson structure.
In this talk, we will show the construction and properties of classical Koszul bracket and higher Koszul bracket. Also, we will explain the connection between de Rham complex and Poisson complex by using these bracket structures.

Keywords. Superlalgebra, supermanifold, Possion structure, differential forms, multivector fields, L_∞-algebras

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