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Luigi Ferraro* (ferrar1@wfu.edu) and **W. Frank Moore** (moorewf@wfu.edu). *Differential graded algebra over quotients of skew polynomial rings by normal elements.*

Differential graded algebra techniques have played a crucial role in the development of homological algebra, especially in the study of homological properties of commutative rings carried out by Serre, Tate, Gulliksen, Avramov, and others. In our work, we extend the construction of the Koszul complex and acyclic closure to a more general setting. As an application of our constructions, we show that the Ext algebra of quotients of skew polynomial rings by ideals generated by normal elements is the universal enveloping algebra of a color Lie algebra, and therefore a color Hopf algebra. As a consequence, we give a presentation of the Ext algebra when the elements generating the ideal form a regular sequence, this generalizes a theorem of Bergh and Oppermann. It follows that in this case the Ext algebra is noetherian, providing a partial answer to a question of Kirkman, Kuzmanovich and Zhang. (Received July 27, 2019)