Gerstenhaber bracket via arbitrary resolution

Y. Volkov

Hochschild cohomology is an interesting derived invariant of an algebra. It is well known that it has a structure of a Gerstenhaber algebra, which includes the cup product and the Gerstenhaber bracket. There are some well known formulas for cup product via an arbitrary bimodule projective resolution of an algebra under consideration. One interesting formula for the Gerstenhaber bracket appeared recently in a work of C. Negron and S. Witherspoon. There the correctness of this formula is proved for a resolution with some restrictive properties. In the current talk we will see how to modify this formula in such a way that it becomes correct for any bimodule projective resolution. Also we represent some other interesting formulas and algorithms for computing the Gerstenhaber bracket on Hochschild cohomology of an algebra.