

1144-16-328

Johan Steen* (jsteen1@ucsc.edu). *The Gerstenhaber bracket via the homotopy category*. Preliminary report.

It is well known that the Hochschild cohomology ring of an associative algebra is both graded commutative and admits a Lie bracket. Both operations were first given by formulas on the level of cochains, but nowadays the cup product is often more elegantly defined as splicing of exact sequences or as compositions in the graded endomorphism ring of the algebra in the derived (or homotopy) category of the associated enveloping algebra.

In joint work with Reiner Hermann, we consider the latter perspective, and describe the Gerstenhaber bracket in terms of the non-symmetric tensor triangulated structure that this category possesses. I will describe this construction, and also discuss Schwede's loop construction and Buchweitz' fundamental groups of morphisms, as our work relies heavily on theirs. (Received August 28, 2018)