

Deformation of algebras and the Gerstenhaber bracket

María Julia Redondo

Universidad Nacional de Sur, Argentina

The deformation theory of algebras was initiated by Gerstenhaber in the 1960s. He showed that there is a close connection between infinitesimal deformations of algebras and their Hochschild cohomology. Let A_f be the infinitesimal deformation of an associative k -algebra A , associated to the Hochschild 2-cocycle f . In this talk we will consider the connection between the Hochschild cohomology of A_f and the Hochschild cohomology of A , and we will show that it strongly involves the Gerstenhaber brackets $[f, -] : \mathrm{HH}^n(A) \rightarrow \mathrm{HH}^{n+1}(A)$.

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