

1106-13-1535

David Eisenbud* (de@msri.org), 17 Gauss Way, Berkeley, CA 94720. *Operators on resolutions over complete intersections.*

If $R = S/(f_1, \dots, f_c)$ is a local complete intersection of codimension c , and M is a finitely generated R -module, then there are homotopy-commutative operators of homological degree -2 on the minimal R -free resolution of M that (for example) make

$$\text{Ext}_R^*(M, N) = \text{Ext}_R^{\text{even}}(M, N) \oplus \text{Ext}_R^{\text{odd}}(M, N)$$

into the direct sum of two finitely generated modules, the even and odd parts, over the ring generated by the operators.

It turns out that there are "higher" ci-operators, one of degree $-m$ for every natural number m , that satisfy simple identities and give some information about the relation between the even and odd Ext modules above. I will explain this new development and the way that it is related to the resolution of M over S .

This is joint work with Irena Peeva and Frank-Olaf Schreyer (Received September 14, 2014)