Summary: In this paper we study a connective commutative differential graded algebra (CDGA) which is piecewise Noetherian. The principal aim is to analyze a dualizing complex of CDGA’s and investigate a Gorenstein CDGA. We also establish many other results which can be expected to play basic roles in the study of a CDGA, such as the Auslander-Buchsbaum formula and Bass formula without any unnecessary assumptions.

The key notion is the sup-projective (sppj) and inf-injective (ifij) resolutions introduced by the author, which are DG-versions of the projective and injective resolutions for ordinary modules. In the paper, we show that sppj and ifij resolutions are powerful tools to study DG-modules.

MSC:

16Exx Homological methods in associative algebras
13Dxx Homological methods in commutative ring theory
13Hxx Local rings and semilocal rings
13Dxx Homological methods in commutative ring theory
18Exx Categorical algebra

Full Text: DOI

This reference list is based on information provided by the publisher or from digital mathematics libraries. Its items are heuristically matched to zbMATH identifiers and may contain data conversion errors. It attempts to reflect the references listed in the original paper as accurately as possible without claiming the completeness or perfect precision of the matching.