On Hochschild-Mitchell and Baues-Wirsching Cohomologies for Diagrams

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The aim of this talk is to construct a spectral sequence computing the Hochschild-Mitchell cohomology of the Grothendieck construction Gr(X) on a diagram

$X: I \longrightarrow k$ -Categories

of k-linear categories indexed by a small category I based on the viewpoint developed in [Tam].

Our construction generalizes that of Cibils and Redondo [CR05], which only deals with the case when I is a group. An analogous generalization is obtained by Pirashvili and Redondo [PR06] for diagrams of small categories

$X: I \longrightarrow \mathbf{Categories}$.

Their construction does not handle diagrams with values in k-linear categories but works for a cohomology theory with more general coefficients, i.e. the Baues-Wirsching cohomology [BW85].

We introduce a notion of coalgebra category and construct a generalization of their spectral sequence to diagrams of coalgebra categories

$X: I \longrightarrow k$ -Coalgebra-Categories.

References

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