

A lift of a Batalin-Vilkovisky algebra structure on the double cobar construction

Wednesday, October 16, 2013 3:20 PM (45 minutes)

Let X be a simplicial set. H.-J. Baues constructed an explicit coproduct on the cobar construction of X . This coproduct can be expressed as co-operations on the chain complex of X . We establish a criterion in terms of these co-operations for the obtention of a Batalin-Vilkovisky algebra structure up to homotopy (in the sense of Gerstenhaber-Voronov) on the double cobar construction.

As an application we obtain a Batalin-Vilkovisky algebra structure up to homotopy on the double construction of an iterated simplicial suspension.

We also discuss the particular case when the ground ring is a characteristic zero field.

Mots Clés / Keywords

BV structure; cobar construction

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Track Classification: Topologie algébrique et applications