String topology of classifying spaces

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Résumé en anglais	Let G be a finite group or a compact connected Lie group and let BG be its classifying space. Let $\mathcal{L}BG := \mathrm{map}(S1, BG)$ be the free loop space of BG, i.e. the space of continuous maps from the circle S1 to BG. The purpose of this paper is to study the singular homology $H^*(\mathcal{L}BG)$ of this loop space. We prove that when taken with coefficients in a field the homology of $\mathcal{L}BG$ is a homological conformal field theory. As a byproduct of our Main Theorem, we get a Batalin–Vilkovisky algebra structure on the cohomology $H^*(\mathcal{L}BG)$. We also prove an algebraic version of this result by showing that the Hochschild cohomology $HH^*(S^*(G), S^*(G))$ of the singular chains of G is a Batalin–Vilkovisky algebra.Comments (0)
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