Formality of controlling algebra for deformations of representations of π_1 of open Kaehler manifolds.

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Abstract

Given a compact Kaehler manifold, we consider the complement U of a divisor with normal crossings. We study the variety R of unitary representations of the fundamental group of U such that the images of loops encircling the irreducible components of the divisor lie in prescribed conjugacy classes. The corresponding deformation problem is controlled by a differential graded Lie algebra of forms with holomorphic logarithmic singularities and vanishing residues. We prove that this algebra is formal, which is a key ingredient in establishing that the singularities of variety R as well as of the corresponding moduli space of irreducible representations are quadratic.