

Deformations of Symplectic Foliations

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Abstract

In this talk, based on joint work with Stephane Geudens and Marco Zambon, I develop the deformation theory of symplectic foliations, i.e. regular foliations equipped with a leaf-wise symplectic form. The main result is that each symplectic foliation is attached with an L_∞ algebra controlling its deformation problem. Indeed, we establish a one-to-one correspondence between the small deformations of a given symplectic foliation and the MC elements of the associated L_∞ algebra. Further, we prove that, under this one-to-one correspondence, the equivalence by isotopies of symplectic foliations agrees with the gauge equivalence of MC elements. Finally, we show that the infinitesimal deformations of symplectic foliations can be obstructed.

References

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