Seminar on Deformation Quantization and Geometry

22. 11. 2024 at 14:00 s.t.

Seminarroom SE 31

MAXIMILIAN STEGEMEYER (UNI FREIBURG)

The Frobenius relation in string topology

String topology is the study of algebraic operations on the homology of the free loop space of a closed manifold. Two prominent operations are the Chas-Sullivan product and the Goresky-Hingston coproduct. While the Chas-Sullivan product is very well understood the behaviour of the coproduct seems to be more complicated. In this talk I will give an introduction to string topology and show connections of string topology to symplectic and Riemannian geometry. We will then focus on the question what algebraic structure the product and the coproduct form together and show that under a certain transversality condition we obtain a Frobenius-type relation. As an application this yields the behaviour of the coproduct on product manifolds. This talk is based on joint work with Nathalie Wahl.

Invited by Stefan Waldmann