Julius-Maximilians-
UNIVERSITÄT
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Announcement

Seminar on Deformation Quantization

11. 2. 2022 at 2pm CET

Hybrid Seminar in SE 30 and

`https://uni-wuerzburg.zoom.us/j/92529190594?pwd=WkJvR1o1QUdldUNSSjFJbHB4c0Z0dz09`

Jonas Schnitzer (Univ. Freiburg)

The strong Homotopy Structure of Phase Space Reduction in Deformation Quantization

A Hamiltonian action on a Poisson manifold induces a Poisson structure on a reduced manifold, given by the Poisson version of the Marsden-Weinstein reduction or equivalently the BRST-method. For the latter there is a version in deformation quantization for *equivariant star products*, i.e. invariant under the action and admitting a quantum momentum map which produces a star product on the reduced manifold.

Fixing a Lie group action on a manifold, one can define a curved Lie algebra whose Maurer-Cartan elements are invariant star products together with quantum momentum maps. Star products on the reduced manifold are Maurer-Cartan elements of the usual DGLA of polydifferential operators. Thus, reduction is just a map between these two sets of Maurer-Cartan elements. In my talk I want to show that one can construct an L_∞-morphism, which on the level of Maurer Cartan elements provides a reduction map.

This is work in progress with Chiara Esposito and Andreas Kraft.

Invited by Stefan Waldmann