

Announcement

Seminar on Deformation Quantization

2. 12. 2022 at 2pm CEST/CET

Hybrid Seminar in SE 30 and

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

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Constraint Reduction in Algebra, Geometry and Deformation Quantization I

Deformation quantization aims at constructing a quantum mechanical analogue to a given classical mechanical system by (formally) deforming the commutative algebra of functions on a given Poisson manifold (M, π) into a non-commutative algebra describing the associated quantum system. In this two-piece series I will present a general framework for incorporating the additional information of a coisotropic submanifold $C \subseteq M$ into its algebra of functions and study the deformation theory of these so-called constraint algebras. In the first part, I will focus on the classical side by introducing constraint manifolds and their vector bundles, as well as constraint algebras and modules as their algebraic analogues. The category of strong constraint projective modules will turn out to be equivalent to the category of constraint vector bundles, giving a constraint version of the Serre-Swan Theorem. If time permits, I will introduce vector fields and differential forms on constraint manifolds, as well as a symbol calculus for constraint multidifferential operators.

Invited by Stefan Waldmann