

Seminarankündigung

## Deformationsquantisierung

**Am 3. 7. 2020 spricht um 14 Uhr c.t.**

<https://bbb.durates.net/b/ste-2va-uez>

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### The Braided Cartan Calculus and Braided Commutative Geometry

A manifold with Lie algebra symmetry admits a Drinfel'd twist deformation quantization if there is a normalized 2-cocycle on the corresponding universal enveloping algebra. Furthermore, every tensor field on the manifold can be quantized in a compatible way, using the same twist. The procedure is functorial, leading to a noncommutative Cartan calculus. In this talk we generalize this well-known construction to braided commutative algebras with triangular Hopf algebra symmetries. The Drinfel'd functor corresponds the equivalence classes in this setting. After discussing the Cartan relations we introduce equivariant metrics and covariant derivatives in braided commutative geometry. We prove existence and uniqueness of a braided Levi-Civita covariant derivative for any non-degenerate metric and show how the Drinfel'd functor intertwines the construction.

gez. Stefan Waldmann