Deformationsquantisierung

spricht am **08.07.2016 um 14 Uhr c.t.,**

im Seminarraum 00.009 (Physik Ost)

Matthias Schötz

über das Thema:

From *-Algebras to uniform Spaces and back

The Gel'fand transformation allows one to represent commutative (unital) C^*-algebras as algebras of continuous functions on a compact space. While this construction can be carried out for arbitrary commutative *-algebras, its properties are way less interesting in the general case. However, one can still look for sufficient conditions for the Gel'fand transformation to have good properties (e.g. being a faithful representation). In this talk, the following setting will be examined:

Let $\mathcal{A}$ be a unital associative *-algebra, $\Phi \subseteq \mathcal{A}^*$ a cone of "interesting" positive linear functionals (e.g. the continuous ones in the case that $\mathcal{A}$ carries a topology) and $\beta \subseteq \mathscr{P}(\mathcal{A})$ a bornology on $\mathcal{A}$ with respect to which all $\phi \in \Phi$ are bounded. After a short presentation of some general properties of these objects, I will give a version of the Gel'fand transformation that represents such algebras by algebras of uniformly continuous functions on a uniform space and discuss some conditions for this representation to be faithful.

Conversely, the *-algebra of bounded complex functions on a complete uniform space can be equipped in a canonical way with a cone of positive linear functionals and a bornology, such that the Gel'fand transformation yields the original uniform space.

gez. Stefan Waldmann