Julius-Maximilians-
UNIVERSITÄT
WÜRZBURG

MUΦX
Lehrstuhl X

Im Oberseminar

Deformationsquantisierung

spricht am **18.05.2018 um 14 Uhr c.t.,**

im Seminarraum 00.009 (Physik Ost)

Marvin Dippell

über das Thema:

A Bicategorical Approach to Morita Equivalence and Reduction

In classical mechanics reduction provides a powerful tool to construct out of a given system and an associated symmetry a lower dimensional system with simplified equations of motion. Geometrically, this procedure is given by the Marsden-Weinstein (or more general coisotropic) reduction.

Using deformation quantization we can quantize a classical system obtaining a *-algebra describing the observables of our quantum mechanical system. But to get a complete description of the system we need to choose in addition a representation of this *-algebra. Thus knowing the representation theory is an important, but in general not achievable task. Morita theory now provides tools to at least compare the representation theories of different *-algebras.

In this talk I will present a framework in which reduction and Morita equivalence can be described for both classical and quantum mechanical systems. From this it will immediately follow that Morita equivalence is preserved under reduction. In addition, I will show that classical limits work well with reduction and give an outlook on some open questions.

gez. Stefan Waldmann