

The Joint Über-Seminar

discussion of research topics for young mathematicians and physicists

28 November 2014

14:00-17:00

in the seminar room 31.00.017 (Physik Ost)

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Symplectic group actions on formal deformation quantization

We will start by giving a brief introduction to and motivation for the notion of formal deformation quantization. In particular we will single out the Fedosov construction for formal deformation quantizations of symplectic manifolds and give some insights to its usefulness and generality. When we have established this framework we will use it to look at (discrete) group actions on the deformation which arise from symplectic actions on the underlying manifold. In particular we will try to make clear what problems one may encounter when trying to define and recognize (classify) such actions. After a break for coffee and cookies we will go into the mathematical details of our approach to solving these problems. In particular we will show that such group actions are classified (when they exist) by certain group cohomology sets and we will provide some evidence to the computability of these. If time permits we would like to go into some less worked out ideas about the underlying general approach and the problem with working these ideas out. At this point insights, objections and questions from the audience are more invited than usual.