Seminar on Deformation Quantization and Geometry

21. 6. 2024 at 14:00 s.t.

Seminarroom 31.00.018

Rosa Marchesini (Göttingen)

On the homotopy invariance of the twisted Lie algebroid cohomology

Several extensively studied cohomology theories play an important role in differential geometry and mathematical physics. Examples are De Rham cohomology, Chevalley-Eilenberg cohomology, BRST cohomology, and then Poisson, Foliated, and Principal de Rham cohomologies. These are all special cases of Lie algebroid cohomology. After an accessible introduction to Lie algebroid cohomology, we propose a notion of homotopy for Lie algebroids and justify it with examples and applications. This is a joint work with Madeleine Jotz. Special attention is given to the case of Poisson manifolds and Poisson cohomology, which is currently in progress. Other ongoing and future research directions are mentioned.

Invited by Madeleine Jotz