Julius-Maximilians-
UNIVERSITÄT
WÜRZBURG

MUΦX
Lehrstuhl X

Announcement

Seminar on Deformation Quantization and Geometry

31. 10. 2025 at 14:00 s.t.

Seminarroom SE 31

Minona Schäfer (JMU Würzburg)

The Van Est Theorem

Contributing to the much-studied correspondence between Lie algebras and Lie groups, the van Est theorem establishes a precise relation between the cohomologies of Lie algebra cochains and Lie group cochains up to a certain degree. More concretely, under the assumption that the cohomology groups of exterior differential forms on the Lie group vanish in degrees 1 through n, the van Est map induces an isomorphism between the cohomologies of Lie algebra k-cochains and Lie group k-cochains for all k up to n. Moreover, in degree $n+1$ the van Est map yields a monomorphism from the Lie group cohomology into the Lie algebra cohomology. This talk presents the idea of the proof of van Est's theorem, following van Est's original approach via the so-called van Est double complex and its reduction.

Invited by Stefan Waldmann