

Announcement

Oberseminar Geometrie

6th of December 2021 at 2:15pm CEST/CES

Zoom

<https://uni-wuerzburg.zoom.us/j/96587647828?pwd=ZjliUHpkd3J2cDlpVFBYRmlrYkRMZz09>

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On the homotopy invariance of Lie algebroid cohomology and first characteristic classes.

Characteristic classes are powerful invariants that provide information about the geometric object they are associated with. For instance if M is a smooth manifold and $E \subset TM$ is a subbundle of the tangent bundle, Pontryagin classes $p^k(E) \subset H_{\text{dR}}(M)$ encode whether $E \subset TM$ fails to be involutive, up to isomorphism. The same tool extended in the framework of Lie algebroids has recently been shown to provide obstructions to the existence of representations and infinitesimal ideal systems. However, in general it is not easy to determine how much the Lie algebroid cohomology depends on the choice of the Lie algebroid itself. We will focus on various geometric relations between Lie algebroids over homotopy-equivalent base manifolds, some ensuring isomorphic first characteristic classes, others implying invariance of the whole cohomology.

Invited by Madeleine Jotz Lean