

# Oberseminar Geometrie und Topologie

Sommersemester  
2018

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## Existence criteria for locally conformally Kähler metrics

17. April 2018 – 16.15 Uhr

Seminarraum IGT, Raum 7.530, Pfaffenwaldring 57

Abstract: Locally conformally Kähler (LCK) metrics are generalizations of Kähler metrics in a conformal manner: a metric  $g$  is LCK if around every point of the manifold,  $g$  is conformal to a local Kähler metric. Most of the complex surfaces admit such metrics, however, known criteria or obstructions to the existence of these structures are not abundant. There exist specific classes of LCK metrics, whose presence turns out to be closely related to certain types of actions of tori on the manifold. This gives rise to new criteria of existence, which I will present in this talk. In particular, I will discuss the notion of a toric LCK manifold, as well as a recent result concerning the metric structure of such manifolds.



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