Kolloquium über Reine Mathematik

Einladung zu einem Vortrag

Dienstag, 24. Oktober 2017

17 Uhr s.t., Geom H4

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Algebraic and differential geometry of singular varieties with trivial canonical bundle

Abstract:

The famous decomposition theorem of Bogomolov, Beauville and others says that the building blocks of compact Kähler manifolds with trivial canonical bundle are complex tori, Calabi-Yau manifolds, and hyperkähler manifolds. Each of these classes has been studied extensively and exhibits its own beautiful geometry. Motivated by Minimal Model Theory, in recent years several definitions of the corresponding classes of singular varieties have been proposed.

In my talk, I will first present the suggestion made by Kebekus, Peternell and myself, which is formulated in the language of algebraic geometry. Secondly, I will explain why our suggestion is supported by recent results with Kebekus and Guenancia concerning differential-geometric holonomy groups of singular Kähler-Einstein metrics, as well as by work of Druel (on a singular version of the decomposition theorem) and of Schwald (on Lagrangian fibrations of hyperkähler varieties).

Vor dem Vortrag (ab 16.30 Uhr) stehen im Raum 327 Kaffee und Tee bereit.