Oberseminar
Institut für Algebraische Geometrie

Jack Huizenga

(Penn State University)

The cohomology of general tensor products of vector bundles on the projective plane

Using recent advances in the Minimal Model Program for moduli spaces of sheaves on the projective plane, we compute the cohomology of the tensor product of general semistable bundles on the projective plane. More precisely, let V and W be two general stable bundles, and suppose the numerical invariants of W are sufficiently divisible. We fully compute the cohomology of the tensor product of V and W. In particular, we show that if W is exceptional, then the tensor product of V and W has at most one nonzero cohomology group determined by the slope and the Euler characteristic, generalizing foundational results of Drezet, Gottsche and Hirschowitz. We also characterize when the tensor product of V and W is globally generated. Crucially, our computation is canonical given the birational geometry of the moduli space, providing a road map for tackling analogous problems on other surfaces. This is joint work with Izzet Coskun and John Kopper.

Donnerstag, 22.04.2021

16:30 - 17:30

Leibniz Universität Hannover

Alle Interessierten sind herzlich eingeladen.