

SEMINARIO DI GEOMETRIA

13 giugno 2018, h.14.45-15.45

Politecnico di Torino,
Dipartimento di Scienze Matematiche,
AULA 11s

Vincenzo Antonelli

(Politecnico di Torino)

Ulrich bundles on Hirzebruch surfaces

Ulrich bundles on a projective variety are vector bundles that admit a completely linear resolution as sheaves on the projective space. They carry many interesting properties and they are the simplest one from the cohomological point of view.

In this talk we characterize Ulrich bundles of any rank on polarized rational ruled surfaces over \mathbb{P}^1 . We show that every Ulrich bundle admits a resolution in terms of line bundles. Conversely, given an injective map between suitable totally decomposed vector bundles, we show that its cokernel is Ulrich if it satisfies a vanishing in cohomology.

Finally we discuss some particular cases and we construct examples of indecomposable Ulrich bundles.