

Seminari de Geometria Algebraica 2007/2008 (UB-UPC)

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## On the stability of some exceptional bundles

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A very long-standing problem in Algebraic Geometry is to determine the stability of exceptional bundles on smooth projective varieties.

We first show that if  $X \subset \mathbb{P}^n$ ,  $n \geq 3$ , is a smooth and irreducible hypersurface of degree  $1 \leq d \leq n - 1$  and  $E$  is an exceptional bundle on  $X$  given by

$$0 \rightarrow \mathcal{O}_X(-1)^r \rightarrow \mathcal{O}_X^s \rightarrow E \rightarrow 0,$$

for some  $s, t \geq 1$ , then  $E$  is stable.

We then prove that any exceptional bundle on a smooth complete intersection 3-fold  $Y \subset \mathbb{P}^n$  of type  $(d_1, \dots, d_{n-3})$  with  $d_1 + \dots + d_{n-3} \leq n$  and  $n \geq 4$ , is stable.

This is a joint work with Rosa Maria Miró-Roig.

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