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Exceptional collections on nonminimal Enriques surfaces. (English) Zbl 07423228

Summary: By Orlov’s formula, the derived category of blow up $X = \text{Bl}_p X' \to X'$ contains $\mathbb{D}b(X')$ as a semiorthogonal component. This raises an interesting question: does there exist a variety $X'$ such that $\mathbb{D}b(X')$ does not admit an exceptional collection of maximal length, but $\mathbb{D}b(X)$ admits an exceptional collection of maximal length? We give such an example when $X'$ is a minimal Enriques surface.

MSC:
14J28 $K3$ surfaces and Enriques surfaces
14F08 Derived categories of sheaves, dg categories, and related constructions in algebraic geometry

Keywords:
nonminimal Enriques surfaces; exceptional collections

Full Text: DOI

References:
[1] Cho, Yonghwa, Macaulay2 scripts for the paper "Exceptional collections on nonminimal (E)nriques surfaces" (2021)
[5] Lee, Yongnam; Park, Jongil, A simply connected surface of general type with $(p_g=0)$ and $(K^2=2)$, Invent. Math., 170, 3, 483-505 (2007) · Zbl 1126.14049 · doi:10.1007/s00222-007-0069-7

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