

CLUSTER TILTED ALGEBRAS WITH CYCLICALLY ORIENTED QUIVER

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ABSTRACT. In association with a finite dimensional algebra A of global dimension two, we consider the endomorphism algebra of A , viewed as an object in the triangulated hull of the orbit category of the bounded derived category, in the sense of Amiot. We study when this endomorphism algebra is isomorphic to a cluster-tilted algebra and give a characterization of the original algebra in the case that its quiver is cyclically oriented. By other hand, if the endomorphism algebra of A has its quiver cyclically oriented, a necessary and sufficient condition, to be a cluster-tilted algebra of Dynkin or extended Dynkin type is given by the fact that the original algebra must be derived equivalent to a hereditary algebra of the same type.

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