

**Prest, Mike**

**Wild representation type and undecidability.** (English) Zbl 0735.16011

*Commun. Algebra* 19, No. 3, 919-929 (1991).

In this note it is proved that the theory of  $A$ -modules over a finite-dimensional wild algebra  $A$  is undecidable provided the following condition holds: Given any finite-dimensional algebra  $C$  there exists a finite-dimensional module  $B_A$  whose endomorphism ring is of the form  $C \oplus I$  with an ideal  $I$ ,  $B$  is free as a  $C$ -module and there is a  $C$ -basis containing an element with annihilator equal to  $I$ . Furthermore, some remarks concerning the validity of this condition are added.

Reviewer: W.Zimmermann

**MSC:**

**16G60** Representation type (finite, tame, wild, etc.) of associative algebras

**16B70** Applications of logic in associative algebras

**16P10** Finite rings and finite-dimensional associative algebras

**16G30** Representations of orders, lattices, algebras over commutative rings

Cited in 5 Documents

**Keywords:**

finite-dimensional wild algebra; undecidable; endomorphism ring

**Full Text:** [DOI](#)

**References:**

- [1] DOI: 10.1112/plms/s3-56.3.451 · Zbl 0661.16026 · doi:10.1112/plms/s3-56.3.451
- [2] Prest, M. 1985. "Tame categories of modules and decidability". University of Liverpool. preprint
- [3] Prest, M. 1988. London Math. soc. Lecture Note Series. Conference. 1988, Cambridge and New York, London. Cambridge University Press
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