Holt, Derek F.

The Meataxe as a tool in computational group theory. (English) Zbl 0915.20005

Curtis, Robert (ed.) et al., The atlas of finite groups: ten years on. Proceedings of the conference on group theory and its applications, Birmingham, UK, July 10–13, 1995. Cambridge: Cambridge University Press. Lond. Math. Soc. Lect. Note Ser. 249, 74-81 (1998).

The Meataxe algorithm is known to be a practical algorithm for testing finite-dimensional modules over finite fields for irreducibility, and for finding explicit submodules in the reducible situation. The paper briefly describes this and associated algorithms, together with more recent improvements. The possibility of extending these methods to fields of characteristic zero is also discussed.

For the entire collection see [Zbl 0892.00032].

Reviewer: K.-H.Zimmermann (Hamburg)

MSC:

20C40 Computational methods (representations of groups) (MSC2010)
20C05 Group rings of finite groups and their modules (group-theoretic aspects)

Keywords:

ordinary representations; irreducibility tests; Meataxe; finite-dimensional modules; algorithms

Software:

MeatAxe