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Existentially closed groups, by Graham Higman and Elizabeth Scott. London Mathematical Society Monographs, New Series, vol. 3., Clarenden Press, Oxford, 1988, xiv + 156 pp., $49.95. ISBN 0-19-853543-0

SUMMARY

This volume grew out of lectures given by Higman at Oxford in 1983 and 1984 as recorded and amended by Scott. It is not a comprehensive work on e.c. groups but rather contains an ample selection of topics written at an easily accessible graduate level. Both algebraic and model-theoretic aspects of e.c. groups are highlighted. Thus, Chapter 2 gives two very diferent group-theoretic proofs that the normalizer of a finite characteristically simple subgroup of an e.c. group G is a maximal subgroup of G, as well as related results, and has considrable technical interest. [For extensions of one of these methods, see the reviewer's "A.c. groups: Extensions, maximal subgroups, and automorphisms," Trans. Amer. Math Soc. 290, (1985), 457–481.] This book contains all the results of Hickin and Macintyre's "A.c. groups: Embeddings and centralizers" (in *Word Problems* II, North-Holland, 1980) with the exception of the spectrum problem in power ω_1. After some preliminaries, Chapters 5 and 6 develop some algebraic applications of the Higman embedding theorem and its generalized version (which is deduced in the text). In particular the embedding of