45[20–06, 20–04, 05–04, 08–04, 16–04].—MARTIN C. TANGORA (Editor), *Computers in Algebra*, Lecture Notes in Pure and Appl. Math., vol. 111, Dekker, New York and Basel, 1988, viii+162 pp., $25\frac{1}{2}$ cm. Price $89.75.

This volume contains papers presented at a conference on Computers in Algebra held in December 1985 at the University of Illinois at Chicago. The sixteen papers illustrate various aspects of the use of computers in algebra, either to prove theorems or to do calculations which lead to simple proofs by hand. Most contributions come from the area of computational group theory. Overview papers discuss algorithms for p-groups and permutation groups, polynomial-time algorithms for permutation groups and the computer-aided determination of Galois groups. The use of the computer to obtain or prove presentations for finite simple groups is discussed in several papers, including work on the conjectured Y_{555}-presentation connected to the monster simple group. Three papers are concerned with the computer-aided determination of cohomology groups and rings, used for example to help the enumeration of perfect groups of small order. Other topics discussed include coding theory, proof of solvability of word problems in universal algebra, and Hopf algebras.

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