

**THE  
JOURNAL  
OF  
SYMBOLIC LOGIC**

EDITED BY

## TABLE OF CONTENTS

An independence result in quadratic form theory: Infinitary combinatorics applied to $\epsilon$ -Hermitian spaces. By FRED APPENZELLER . . . . .	689
On generic elementary embeddings. By MOTI GITIK . . . . .	700
Saturating ultrafilters on $\mathbb{N}$ . By D. H. FREMLIN and P. J. NYIKOS . . . . .	708
The cofinality of cardinal invariants related to measure and category. By TOMEK BARTOSZYNSKI, JAIME I. IHODA and SAHARON SHELAH . . . . .	719
The $\Sigma_2^1$ theory of axioms of symmetry. By GALEN WEITKAMP . . . . .	727
Lattice embeddings into the recursively enumerable degrees. II. By K. AMBOS-SPIES and M. LERMAN . . . . .	735
A cardinality version of Beigel's nonspeedup theorem. By JAMES C. OWINGS, JR. . . . .	761
Bad groups of finite Morley rank. By LUIS JAIME CORREDOR . . . . .	768
Nonabsoluteness of elementary embeddings. By FRIEDRICH WEHRUNG . . . . .	774
Extensions of arithmetic for proving termination of computations. By CLEMENT F. KENT and BERNARD R. HODGSON . . . . .	779
Near-equational and equational systems of logic for partial functions. I. By WILLIAM CRAIG . . . . .	795
On the cofinality of the smallest covering of the real line by meager sets. By TOMEK BARTOSZYNSKI and JAIME I. IHODA . . . . .	828
Isols and the pigeonhole principle. By J. C. E. DEKKER and E. ELLENTUCK . . . . .	833
Generix strikes again. By BRUNO POIZAT . . . . .	847
A note on subgroups of the automorphism group of a saturated model, and regular types. By A. PILLAY . . . . .	858
Two results on Borel orders. By ALAIN LOUVEAU . . . . .	865
Diverse classes. By JOHN T. BALDWIN . . . . .	875
A Borel reducibility theory for classes of countable structures. By HARVEY FRIEDMAN and LEE STANLEY . . . . .	894
$\Pi_1^1$ Borel sets. By ALEXANDER S. KECHRIS, DAVID MARKER and RAMEZ L. SAMI . . . . .	915
Non $\Sigma_n$ axiomatizable almost strongly minimal theories. By DAVID MARKER . . . . .	921
Definable equivalence relations on algebraically closed fields. By LOU VAN DEN DRIES, DAVID MARKER and GARY MARTIN . . . . .	928
A note on the multiplicative semigroup of models of Peano arithmetic. By ROMAN KOSSAK, MARK NADEL and JAMES SCHMERL . . . . .	936
Decision problems for differential equations. By J. DENEFF and L. LIPSHITZ . . . . .	941
Nonfinite axiomatizability for cylindric and relation algebras. By ROGER D. MADDUX . . . . .	951
On the ranked points of a $\Pi_1^0$ set. By DOUGLAS CENZER and RICK L. SMITH . . . . .	975
A new proof of Sahlqvist's theorem on modal definability and completeness. By G. SAMBIN and V. VACCARO . . . . .	992

*Continued on inside back cover*

---

THE JOURNAL OF SYMBOLIC LOGIC is published quarterly, in the months of March, June, September, and December, by the Association for Symbolic Logic, Inc., at 1981 East Locust Street, Pasadena, CA 91117. Second class postage is paid at Pasadena, CA and additional offices. The 1989 annual subscription price is \$120. Postmaster: Send address changes to *The Journal of Symbolic Logic*, Association for Symbolic Logic, P.O. Box 70557, Pasadena, CA 91117. Business correspondence should be sent to the Secretary-Treasurer of the Association, C. Ward Henson (address on inside back cover).