

THE
JOURNAL
OF
SYMBOLIC LOGIC

EDITED BY

PETER ACZEL

GEORGE BOOLOS

JOHN P. BURGESS

HERBERT B. ENDERTON

SY D. FRIEDMAN

AKIHIRO KANAMORI

JULIA KNIGHT

MICHAEL MAKKAJ

ANDRE SCEDROV

RICHARD A. SHORE

A. S. TROELSTRA

JOHAN VAN BENTHEM

Consulting Editors:

JAMES BAUMGARTNER

JIRÍ BEČVÁŘ

GREGORY L. CHERLIN

M. J. CRESSWELL

MATTHEW FOREMAN

SAUL A. KRIPKE

GREGORY MINTS

J. DONALD MONK

GABRIEL SABBAGH

SCOTT SOAMES

ALASDAIR URQUHART

VOLUME 55 · NUMBER 2 · JUNE 1990

ISSN 0022-4812

PUBLISHED QUARTERLY BY THE ASSOCIATION FOR SYMBOLIC LOGIC, INC. WITH
SUPPORT FROM ICSU AND FROM INSTITUTIONAL AND CORPORATE MEMBERS

*Copyright © 1990 by the Association for Symbolic Logic, Inc. All rights reserved.
Reproduction by photostat, photo-print, microfilm, or like process by permission only.*

TABLE OF CONTENTS

Upward directedness of the Rudin-Keisler ordering of p -points. By CLAUDE LAFLAMME	449
On the existence of large p -ideals. By WINFRIED JUST, A. R. D. MATHIAS, KAREL PRIKRY, and PETR SIMON	457
Universal structures in power \aleph_1 . By ALAN H. MEKLER	466
Tores et p -groupes. By ALEKSANDR VASILEVICH BOROVIK and BRUNO PETROVICH POIZAT	478
Successors of singular cardinals and measurability revisited. By ARTHUR W. APTER	492
The equivalence of determinacy and iterated sharps. By DERRICK ALBERT DUBOSE	502
Some results on higher Suslin trees. By R. DAVID	526
On the quasi-ordering of Borel linear orders under embeddability. By ALAIN LOUVEAU and JEAN SAINT-RAYMOND	537
Operative vs. combinatory spaces. By LYUBOMIR IVANOV	561
The ordertype of β -r.e. sets. By KLAUS SUTNER	573
Weak cylindric set algebras and weak subdirect indecomposability. By H. ANDRÉKA, I. NÉMETI, and R. J. THOMPSON	577
Taxonomies of model-theoretically defined topological properties. By PAUL BANKSTON	589
Some results about Borel sets in descriptive set theory of hyperfinite sets. By BOŠKO ŽIVALJEVIĆ	604
The deduction theorem for quantum logic—some negative results. By JACEK MALINOWSKI	615
The spectrum of resplendency. By JOHN T. BALDWIN	626
Weakly semirecursive sets. By CARL G. JOCKUSCH, JR., and JAMES C. OWINGS, JR.	637
Definitions of compact. By PAUL E. HOWARD	645
Some improvements to Turner's algorithm for bracket abstraction. By M. W. BUNDER	656
The last word on elimination of quantifiers in modules. By HANS B. GÜTE and K. K. REUTER	670
Finite support iteration and strong measure zero sets. By JANUSZ PAWLIKOWSKI	674
Colimit completions and the effective topos. By EDMUND ROBINSON and GIUSEPPE ROSOLINI	678
Hereditarily finite Finsler sets. By DAVID BOOTH	700
Relevance and paraconsistency—a new approach. By ARNON AVRON	707

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 1990 annual subscription price is \$140. 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).

10 9 8 7 6 5 4 3 2 1 95 94 93 92 91 90