

THE JOURNAL OF SYMBOLIC LOGIC



Edited by

Justin Moore, *Coordinating Editor*

Alessandro Berarducci

Erich Grädel

Bradd Hart

Denis Hirshfeldt

Ralf Schindler

Frank Stephan

Alasdair Urquhart

Andreas Weiermann

VOLUME 75 • NUMBER 3 • SEPTEMBER 2010 • ISSN 0022-4812

Copyright © 2010 by the Association for Symbolic Logic. All rights reserved.
Reproduction by photostat, photo-print, microfilm, or like process by permission only.



PUBLISHED QUARTERLY BY THE ASSOCIATION FOR SYMBOLIC LOGIC
WITH SUPPORT FROM INSTITUTIONAL MEMBERS.

TABLE OF CONTENTS

The two-cardinal problem for languages of arbitrary cardinality, by LUIS MIGUEL VILLEGAS SILVA	785
<i>p</i> -adically closed fields with nonstandard analytic structure, by ALI BLEYBEL ..	802
Definability of groups in \aleph_0 -stable metric structures, by ITAI BEN YAACOV ...	817
Topological properties of sets definable in weakly o-minimal structures, by ROMAN WENCEL	841
First order properties on nowhere dense structures, by JAROSLAV NEŠETŘIL and PATRICE OSSONA DE MENDEZ	868
The initial meadows, by INGE BETHKE and PIET RODENBURG	888
Extending Baire property by uncountably many sets., by PAWEŁ KAWA and JANUSZ PAWLIKOWSKI	896
Groupoids, covers, and 3-uniqueness in stable theories, by JOHN GOODRICK and ALEXEI KOLESNIKOV	905
Continuous isomorphisms from \mathbf{R} onto a complete abelian group, by DOUGLAS BRIDGES and MATTHEW HENDTLASS	930
Reverse mathematics and Ramsey's property for trees, by JARED CORDUAN, MARCIA J. GROSZEK, and JOSEPH R. MILETI	945
On complex exponentiation restricted to the integers, by CARLO TOFFALORI and KATHRYN VOZORIS	955
A characterization of the θ -basis homogeneous bounding degrees, by KAREN LANGE	971
Products of some special compact spaces and restricted forms of AC, by KYRIAKOS KEREMEDIS and ELEFTHERIOS TACHTSIS	996
Quantifier elimination in valued Ore modules, by LUC BÉLAIR and FRANÇOISE POINT	1007
A relative of the approachability ideal, diamond and non-saturation, by ASSAF RINOT	1035
The consistency strength of choiceless failures of SCH, by ARTHUR W. APTER and PETER KOEPKE	1066
Universally measurable subgroups of countable index, by CHRISTIAN ROSENDAL	1081
Division rings whose vector spaces are pseudofinite, by LOU VAN DEN DRIES and VINICIUS CIFÚ LOPES	1087

(Continued on inside back cover)

THE JOURNAL OF SYMBOLIC LOGIC (ISSN print: 0022-4812, ISSN online: 1943-5886) is published quarterly, in the months of March, June, September, and December, by the Association for Symbolic Logic, Inc., 124 Raymond Avenue, Poughkeepsie, NY 12604-0001, USA. Periodicals postage is paid at Poughkeepsie NY and at additional mailing offices. The JOURNAL is distributed with THE BULLETIN OF SYMBOLIC LOGIC. The 2010 annual subscription price for the two journals, in either print or electronic form, is US\$590; visit <http://www.aslonline.org/Journals-subscription.html> for more information. **Postmaster:** Send address changes to *The Journal of Symbolic Logic*, c/o *American Mathematical Society*, 201 Charles Street, Providence, RI 02904-2294, USA. Business correspondence should be sent to the Secretary-Treasurer of the Association, Charles Steinhorn (address on inside back cover).

The BULLETIN, the JOURNAL, and the REVIEW OF SYMBOLIC LOGIC are the official organs of the Association for Symbolic Logic, an international organization for furthering research in symbolic logic and the exchange of ideas among mathematicians, philosophers, computer scientists, linguists, and others interested in this field.

The JOURNAL invites submission of original scholarly work in mathematical logic and its applications.

Continued on inside back cover

10 9 8 7 6 5 4 3 2 1 15 14 13 12 11 10