

THE
JOURNAL
OF
SYMBOLIC LOGIC

EDITED BY

MARTIN GROHE, Coordinating Editor
TOSHIYASU ARAI ELISABETH BOUSCAREN
PETER CHOLAK GREG HJORTH MICHAEL C. LASKOWSKI
JUSTIN MOORE STEWART SHAPIRO

VOLUME 72 · NUMBER 2 · JUNE 2007
ISSN 0022-4812

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

*Copyright ©2007 by the Association for Symbolic Logic. All rights reserved.
Reproduction by photostat, photo-print, microfilm, or like process by permission only.*

TABLE OF CONTENTS

A power function with a fixed finite gap everywhere, by CARMİ MERİMOVİCH .	361
Asymptotic classes of finite structures, by RICHARD ELWES	418
The basic intuitionistic logic of proofs, by SERGEI ARTEMOV and ROSALIE IEMHOFF	439
Δ_3^0 -determinacy, comprehension and induction, by MEDYAHYA OULD MEDSALEM and KAZUYUKI TANAKA	452
Sublocales in formal topology, by STEVEN VICKERS	463
On sets not belonging to algebras, by L. Š. GRINBLAT	483
Ideal convergence of bounded sequences, by RAFAŁ FILIPÓW, NIKODEM MROŹEK, IRENEUSZ RECLAW, and PIOTR SZUCA	501
An analysis of the W^* -hierarchy, by YIJIA CHEN, JÖRG FLUM, and MARTIN GROHE	513
Connecting many-sorted theories, by FRANZ BAADER and SILVIO GHILARDI . .	535
Simplicial structures in MV-algebras and logic, by L. P. BELLUCE and A. DI NOLA	584
Successor-invariant first-order logic on finite structures, by BENJAMIN ROSSMAN	601
Burgess' PV is Robinson's Q , by MIHAI GANEA	619
Transfer principle in quantum set theory, by MASANAO OZAWA	625
NP search problems in low fragments of bounded arithmetic, by JAN KRAJÍČEK, ALAN SKELLEY, and NEIL THAPEN	649
Relation algebra reducts of cylindric algebras and complete representations, by ROBIN HIRSCH	673
Assignment of ordinals to patterns of resemblance, by GUNNAR WILKEN	704

THE JOURNAL OF SYMBOLIC LOGIC (ISSN 0022-4812) 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 2007 annual subscription price for the two journals is US\$540. Online subscription is available from Project Euclid: visit <http://projecteuclid.org/jsl>. **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 and the JOURNAL 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 (1) original technical papers in the field of symbolic logic, (2) expository papers in this field, (3) papers whose main point is philosophical and which either bear upon logic or make use of its methods, and (4) studies in the history of logic in which modern technical developments are taken into account.

Continued on inside back cover

10 9 8 7 6 5 4 3 2 1 12 11 10 09 08 07