ISSN 1201-561X

THEORY AND APPLICATIONS OF CATEGORIES

Volume 8, 2001

n-Permutable locally finitely presentable categories
Marino Gran and Maria Cristina Pedicchio 1

Exponentiable morphisms: posets, spaces, locales, and Grothendieck toposes
Susan Niefield 16

On sifted colimits and generalized varieties
J. Adámek and J. Rosický 33

On Mackey topologies in topological abelian groups
Michael Barr and Heinrich Kleisli 54

Finite sum – product logic
J.R.B. Cockett and R.A.G. Seely 63

On the pullback stability of a quotient map with respect to a closure operator
Lurdes Sousa 010

Duality for simple ω-categories and disks
Mihaly Makkai and Marek Zawadowski 114

Finite sets and symmetric simplicial sets
Marco Grandis 244

How algebraic is algebra?
J. Adámek, F. W. Lawvere and J. Rosický 253

© The Editors of Theory and Applications of Categories 2001. Permission to copy for private use granted.

Localization of V-categories
Bjørn Ian Dundas 284

Limites inductives point par point dans les catégories accessibles
Pierre Ageron 313

Combinatorics of branchings in higher dimensional automata
Philippe Gaucher 324

How large are left exact functors?
J. Adámek, V. Koubek and V. Trnková 377

A categorical genealogy for the congruence distributive property
Dominique Bourn 391

Pseudogroupoids and commutators
George Janelidze and M. Cristina Pedicchio 408

Perfect maps are exponentiable - categorically
Günther Richter and Walter Tholen 457

Essential localizations and infinitary exact completion
Enrico M. Vitale 465

Cartesian closed topological hull of the construct of closure spaces
V. Claes, E. Lowen-Colebunders and G. Sonck 481

A sheaf-theoretic view of loop spaces
Mark W. Johnson 490

On Functors Which Are Lax Epimorphisms
Jiří Adámek, Robert El Bashir, Manuela Sobral, Jiří Velebil 509

Closure operators in exact completions
Matías Menni 522

The extensive completion of a distributive category
J.R.B. Cockett and Stephen Lack 541

$\mathcal{V}$-Cat is locally presentable or locally bounded if $\mathcal{V}$ is so
G. M. Kelly and Stephen Lack 555

THEORY AND APPLICATIONS OF CATEGORIES (ISSN 1201-561X) will disseminate articles that significantly advance the study of categorical algebra or methods, or that make significant new contributions to mathematical science using categorical methods. The scope of the journal includes: all areas of pure category theory, including higher dimensional categories; applications of category theory to algebra, geometry and topology and other areas of mathematics; applications of category theory to computer science, physics and other mathematical sciences; contributions to scientific knowledge that make use of categorical methods.

Articles appearing in the journal have been carefully and critically refereed under the responsibility of members of the Editorial Board. Only papers judged to be both significant and excellent are accepted for publication.

The method of distribution of the journal is via the Internet tools `WWW/ftp`. The journal is archived electronically and in printed paper format.

Subscription information. Individual subscribers receive (by e-mail) abstracts of articles as they are published. Full text of published articles is available in .dvi, Postscript and PDF. Details will be e-mailed to new subscribers. To subscribe, send e-mail to `tac@mta.ca` including a full name and postal address. For institutional subscription, send enquiries to the Managing Editor, Robert Rosebrugh, `rrosebrugh@mta.ca`.

Information for authors. The typesetting language of the journal is TEX, and LATEX is the preferred flavour. TEX source of articles for publication should be submitted by e-mail directly to an appropriate Editor. They are listed below. Please obtain detailed information on submission format and style files from the journal's WWW server at `http://www.tac.mta.ca/tac/`. You may also write to `tac@mta.ca` to receive details by e-mail.

Editorial board.
John Baez, University of California, Riverside: `baez@math.ucr.edu`
Michael Barr, McGill University: `barr@barrs.org`, *Associate Managing Editor*
Lawrence Breen, Université Paris 13: `breen@math.univ-paris13.fr`
Ronald Brown, University of North Wales: `r.brown@bangor.ac.uk`
Jean-Luc Brylinski, Pennsylvania State University: `jlb@math.psu.edu`
Aurelio Carboni, Università dell Insubria: `aurelio.carboni@uninsubria.it`
P. T. Johnstone, University of Cambridge: `ptj@dpmms.cam.ac.uk`
G. Max Kelly, University of Sydney: `maxk@maths.usyd.edu.au`
Anders Kock, University of Aarhus: `kock@imf.au.dk`
F. William Lawvere, State University of New York at Buffalo: `wlawvere@acsu.buffalo.edu`
Jean-Louis Loday, Université de Strasbourg: `loday@math.u-strasbg.fr`
Ieke Moerdijk, University of Utrecht: `moerdijk@math.uu.nl`
Susan Niefield, Union College: `niefiels@union.edu`
Robert Paré, Dalhousie University: `pare@mathstat.dal.ca`
Andrew Pitts, University of Cambridge: `Andrew.Pitts@cl.cam.ac.uk`
Robert Rosebrugh, Mount Allison University: `rrosebrugh@mta.ca`, *Managing Editor*
Jiri Rosicky, Masaryk University: `rosicky@math.muni.cz`
James Stasheff, University of North Carolina: `jds@math.unc.edu`
Ross Street, Macquarie University: `street@math.mq.edu.au`
Walter Tholen, York University: `tholen@mathstat.yorku.ca`
Myles Tierney, Rutgers University: `tierney@math.rutgers.edu`
Robert F. C. Walters, University of Insubria: `walters@fis.unico.it`
R. J. Wood, Dalhousie University: `rjwood@mathstat.dal.ca`