REAL ANALYSIS EXCHANGE



CONTENTS

CONFERENCE ANNOUNCEMENTS
CONFERENCE REPORT
RESEARCH ARTICLES
A. Szymanski
On measurability problem for category bases
H. Rosen
Quasi-components of preimages of a connectivity functions $I^2 \rightarrow I \dots \dots$
S. Agronsky and J. Ceder
. What sets can be ω -limit sets in E ⁿ ?
J. Kurzweil and J. Jarník
Equiintegrability and controlled convergence of Perron-type integrable functions
W. Appling
Set functions, finite additivity and joint distribution function representations
K. Ciesielski
Density-to-deep I-density continuous functions
K. Ciesielski and L. Larson
Various continuities with the density, I-density and ordinary topologies on R
H. Heinig and L. Maligranda
Chebyshev inequality in function spaces
H. Rosen, G. Gibson and F. Roush
Extendable functions and almost continuous functions with a perfect road
M. Evans, P. Humke and K. Saxe
A symmetric porosity conjecture of Zajícek
C. Freiling and P. Humke
The exact Borel class where a density complete axiom holds
F. Cater
Real numbers with redundant representations
V. Ene
Monotonicity and local systems



REAL ANALYSIS EXCHANGE EDITORIAL BOARD

MANAGING EDITORS

Jan Mařík Mathematics Department Michigan State University East Lansing, MI 48824-1027 USA Clifford E. Weil Mathematics Department Michigan State University East Lansing, MI 48824-1027 USA 21144cew@msu.bitnet

QUERIES EDITOR

Richard J. O'Malley Mathematics Department University of Wisconsin Milwaukee, WI 53201 USA omalley@csd4.csd.uwm.edu

ASSOCIATE EDITORS

Michael J. Evans James Foran Paul D. Humke
Mathematics Dept. Mathematics Dept.
North Carolina University of Missouri St. Olaf College
State University
Raleigh, NC 27695 Kansas City, MO 64108 Northfield, MN 55057

USA USA USA mje@matmje.ncsu.edu jforan@umkcvax1.bitnet humke@stolaf.edu

Lee Larson David Preiss
Mathematics Department Mathematics Department
University of Louisville University College, London
Louisville, KY 40506 London WC1E 6BT
USA England
lmlars01@ulkyvx.bitnet ucahpdp@ucl.ac.uk

Library of Congress Catalog Card Number 77-647120

International Standard Serial Number 0147-1937 The Real Analysis Exchange consists of four major sections, each with a distinct character. Papers submitted to the Research Articles section will be sent to three referees for their independent judgment, while papers submitted to the Inroads section are normally sent to two referees. Descriptions of each section of the Real Analysis Exchange follow.

Section 1: TOPICAL SURVEYS

This section consists of survey articles concerning one area of current research activity. These articles differ from survey articles in other journals both in their more limited scope and greater depth. It is anticipated that such a survey article will indicate a stream of mathematical thought from origins of the current problem area up to and including unpublished results. Topical survey articles are refereed and reviewed by Mathematical Reviews, Zentralblatt für Mathematik and Referativnyi Zhurnal: Matematika.

Section 2: RESEARCH ARTICLES

This section is reserved for original research in the areas of real analysis, functions of one or more real variables, and real set theory. As this section is intended for primary source material, the results published in this section should not appear in unabstracted form elsewhere. Papers submitted as research articles will be refereed prior to publication and reviewed by Mathematical Reviews, Zentralblatt für Mathematik and Referativnyi Zhurnal: Matematika.

Section 3: INROADS

Papers presenting new and simple proofs of well-known theorems, or simple and interesting consequences of known results may appear in this section. In addition a synopsis of a dissertation in real analysis could be appropriate if the results are not to appear in another journal. However, in general abstracts of papers to be published elsewhere are not acceptable. Authors need not present proofs of all assertions in an inroads article, but when an omitted proof is not easy, the writer should so inform the reader. Inroads articles are refereed before publication and reviewed by Referativnyi Zhurnal: Matematika.

Section 4: QUERIES

In this section problems are presented together with appropriate bibliographical and historical information. This section is not meant to be a recreational section, but a forum for the presentation of unsolved problems in specific areas of real analysis.

NOTICE TO CONTRIBUTORS

- 1. Any author interested in writing a Topical Survey article should contact Professor Paul Humke, Department of Mathematics, St. Olaf College, Northfield, MN 55057, USA for detailed information.
- 2. Articles for the Inroads and Research Articles sections should be neatly typed in camera-ready form. The printed area on each page should measure no more than 16.5 cm by 23 cm (6.5 inches by 9 inches) and should have margins at the top and bottom of 2.5 cm (1 inch). In addition articles may be submitted in any form of TEX either on disk or by electronic mail. Contributors should take note of the heading format for papers in these two sections. Also they should indicate the section to which their paper is being submitted. Papers for the Inroad section and for the Research Articles section may be submitted at any time and will be carefully refereed as promptly as possible. All articles will appear in the first issue following acceptance.
- 3. Queries should be typed with appropriate bibliographical and/or historical information included. They should be sent to the Queries Editor whose address is listed with the Editorial Board on the first page of this and every issue. Solutions to previous Queries should be typed using the instructions listed above and sent to the Queries Editor. Lengthy solutions may be published in the Inroads section at the discretion of the editors. The deadline for receipt of Queries is September 1 for the first issue of each volume and March 1 for the second.
- 4. All contributed papers, except for Queries, and all other correspondence with the Exchange should be sent to the following address:

Real Analysis Exchange Department of Mathematics Michigan State University East Lansing, MI 48824-1027 USA 21144cew@msu.bitnet

SUBSCRIPTION INFORMATION

Annual subscription rates

Individuals Institutions \$20.00 \$33.00