## ILLINOIS JOURNAL OF MATHEMATICS

a quarterly journal published by the UNIVERSITY OF ILLINOIS at Urbana-Champaign

edited by
STEPHANIE ALEXANDER
JEAN BOURGAIN
BURGESS DAVIS
PHILLIP GRIFFITH
A. J. HILDEBRAND
CRAIG HUNEKE
JOSEPH M. ROSENBLATT
LOU VAN DEN DRIES
JANG-MEI WU

## ILLINOIS JOURNAL OF MATHEMATICS

## **Editors**

STEPHANIE ALEXANDER, Department of Mathematics, University of Illinois, 1409 W. Green St., Urbana, IL 61801

sba@math.uiuc.edu

JEAN BOURGAIN, School of Mathematics, Institute for Advanced Study, Princeton, NJ 08540

bourgain@ias.edu

BURGESS DAVIS, Department of Statistics, Purdue University, West Lafayette, IN 47907

bdavis@stat.purdue.edu

PHILLIP GRIFFITH, Department of Mathematics, University of Illinois, 1409 W. Green St., Urbana, IL 61801

griffith@math.uiuc.edu

A. J. HILDEBRAND (Managing Editor), Department of Mathematics, University of Illinois, 1409 W. Green St., Urbana, IL 61801 ajh@math.uiuc.edu

CRAIG HUNEKE, Department of Mathematics, University of Kansas, Lawrence, KS 66045

huneke@math.ukans.edu

JOSEPH M. ROSENBLATT, Department of Mathematics, University of Illinois, 1409 W. Green St., Urbana, IL 61801

jrsnbltt@math.uiuc.edu

LOU VAN DEN DRIES, Department of Mathematics, University of Illinois, 1409 W. Green St., Urbana, IL 61801

vddries@math.uiuc.edu

JANG-MEI WU, Department of Mathematics, University of Illinois, 1409 W. Green St., Urbana, IL 61801

wu@math.uiuc.edu

THE ILLINOIS JOURNAL OF MATHEMATICS (ISSN 0019-2082) is published quarterly (Spring, Summer, Fall, Winter) by the University of Illinois Press, 1325 S. Oak, Champaign, IL 61820, on behalf of the Department of Mathematics of the University of Illinois. Periodicals postage paid at Champaign, Illinois and additional mailing offices. *Postmaster*: Please send change-of-address notices to the University of Illinois Press.

Subscription price: \$125; single issues, \$36 (volumes 39 to date). Address orders to the University of Illinois Press. Requests for replacement of damaged or undelivered issues will be honored for up to six months after publication of the issue. Back issues of Volumes 1–38 are available from Swets & Zeitlinger B.V., Herreweg 347-b, P.O. Box 810, 2160 SZ Lisse-Holland. Microfilm, microfiche and reprint copies may be obtained from UMI, Periodicals Check-In, 300 North Zeeb Road, P.O. Box 1346, Ann Arbor, MI 48106-1346.