

Journal Of Differential Geometry

L. Mosher, <i>Surfaces and branched surfaces transverse to pseudo-Anosov flows on 3-manifolds</i>	1
Z. Ran, <i>Stability of certain holomorphic maps</i>	37
K. Amano, <i>Global isometric embedding of a Riemannian 2-manifold with nonnegative curvature into a Euclidean 3-space</i>	49
S. Chanillo & B. Muckenhoupt, <i>Nodal geometry on Riemannian manifolds</i>	85
R. E. Gompf, <i>Sums of elliptic surfaces</i>	93
C. C. Adams, <i>Limit volumes of hyperbolic three-orbifolds</i>	115
D. McDuff, <i>The local behaviour of holomorphic curves in almost complex 4-manifolds</i>	143
C.-C. Poon, <i>Some new harmonic maps from B^3 to S^2</i>	165
X. Cheng, <i>Estimate of the singular set of the evolution problem for harmonic maps</i>	169
S. Kojima & Y. Miyamoto, <i>The smallest hyperbolic 3-manifolds with totally geodesic boundary</i>	175
U. Hamenstädt, <i>A geometric characterization of negatively curved locally symmetric spaces</i>	193
C. LeBrun, <i>Explicit self-dual metrics on $\mathbb{C}P_2 \# \dots \# \mathbb{C}P_2$</i>	223
R. Fintushel & R. J. Stern, <i>Homotopy K3 surfaces containing $\Sigma(2, 3, 7)$</i>	255
M.-C. Chang & Z. Ran, <i>On the slope and Kodaira dimension of \overline{M}_g for small g</i>	267

JOURNAL OF DIFFERENTIAL GEOMETRY

Editors-in-Chief

C. C. HSIUNG
Lehigh University
Bethlehem, PA 18015

S. T. YAU
Harvard University
Cambridge, MA 02138

Editors

ROBERT L. BRYANT
Duke University
Durham, NC 27706
SIMON K. DONALDSON
University of Oxford
Oxford, England OX1 3LB

H. BLAINE LAWSON, JR.
State University of New York
Stony Brook, NY 11794
RICHARD M. SCHOEN
Stanford University
Stanford, CA 94305

Associate Editors

ENRICO ARBARELLO
Universita degli Studi di Roma
Universitadi Ple A. Moro 2
00185 Roma, ITALY

MICHAEL H. FREEDMAN
University of California
La Jolla, CA 92093

JEFF CHEEGER
State University of New York
Stony Brook, NY 11794

SHIGEFUMI MORI
Faculty of Sciences
Nagoya University
Nagoya 464, JAPAN

ALAN WEINSTEIN
University of California
Berkeley, CA 94720

The Journal of Differential Geometry is devoted to the publication of research papers in differential geometry and related subjects such as differential equations, mathematical physics, algebraic geometry and geometric topology.

The subscription price for Vols. 33–34 (1991) is \$250.00 list, \$63.00 for personal use of individuals; each volume consists of three numbers. Back number prices per volume (with a 40% reduction for individual members and a 20% reduction for institutional members of the American Mathematical Society): Vols. 1–2 (1967–1968), \$22.00; Vols. 3–6 (1969–1971), \$28.00; Vols. 7–9 (1972–1974), \$37.00; Vol. 10 (1975), \$47.00; Vol. 11 (1976), \$54.00; Vol. 12 (1977), \$62.00; Vols. 13–15 (1978–1980), \$65.00; Vol. 16 (1981), \$75.00; Vol. 17 (1982), \$81.00; Vols. 18–20 (1983–1984), \$124.00; Vols. 21–22 (1985), \$140.00; Vols. 23–28 (1986–1988), \$148.00, Vols. 29–30 (1989), \$164.00, Vols. 31–32 (1990), \$173.00.

Subscriptions and orders should be addressed to the American Mathematical Society, P.O. Box 1571, Annex Station, Providence, Rhode Island 02901-1571. *All orders must be accompanied by payment, and check should be made payable to the American Mathematical Society.* General correspondence and changes of address should be sent to the American Mathematical Society, P.O. Box 6248, Providence, Rhode Island 02940-6248.

Instructions for submission of manuscripts are given inside of the back cover of this issue.

Journal of Differential Geometry (ISSN 0022-040X) is published bimonthly in January, March, May, July, September and November by Lehigh University, Christmas-Saucon Hall 14, Bethlehem PA 18015-3175. Second Class Postage Rates paid at Bethlehem, PA and an additional mailing office. Postmaster: Send address changes to Journal of Differential Geometry, American Mathematical Society, P.O. Box 6248, Providence, RI 02940.

Copyright © 1991 Lehigh University. All rights reserved.
ISSN 0022-040X

Printed in the United States of America.

The paper used in this issue is acid-free and falls within the guidelines established to ensure permanence and durability. ∞

Journal
Of Differential
Geometry

Published by
LEHIGH UNIVERSITY
Bethlehem, Pennsylvania

Volume 34 · 1991

JOURNAL OF DIFFERENTIAL GEOMETRY

Editors-in-Chief

C. C. HSIUNG
Lehigh University
Bethlehem, PA 18015

S. T. YAU
Harvard University
Cambridge, MA 02138

Editors

ROBERT L. BRYANT
Duke University
Durham, NC 27706
SIMON K. DONALDSON
University of Oxford
Oxford, England OX1 3LB

H. BLAINE LAWSON, JR.
State University of New York
Stony Brook, NY 11794
RICHARD M. SCHOEN
Stanford University
Stanford, CA 94305

Associate Editors

ENRICO ARBARELLO
Universita degli Studi di Roma
Universitadi Ple A. Moro 2
00185 Roma, ITALY

MICHAEL H. FREEDMAN
University of California
La Jolla, CA 92093

JEFF CHEEGER
State University of New York
Stony Brook, NY 11794

SHIGEFUMI MORI
Faculty of Sciences
Nagoya University
Nagoya 464, JAPAN

ALAN WEINSTEIN
University of California
Berkeley, CA 94720

The Journal of Differential Geometry is devoted to the publication of research papers in differential geometry and related subjects such as differential equations, mathematical physics, algebraic geometry and geometric topology.

The subscription price for Vols. 33-34 (1991) is \$250.00 list, \$63.00 for personal use of individuals; each volume consists of three numbers. Back number prices per volume (with a 40% reduction for individual members and a 20% reduction for institutional members of the American Mathematical Society): Vols. 1-2 (1967-1968), \$22.00; Vols. 3-6 (1969-1971), \$28.00; Vols. 7-9 (1972-1974), \$37.00; Vol. 10 (1975), \$47.00; Vol. 11 (1976), \$54.00; Vol. 12 (1977), \$62.00; Vols. 13-15 (1978-1980), \$65.00; Vol. 16 (1981), \$75.00; Vol. 17 (1982), \$81.00; Vols. 18-20 (1983-1984), \$124.00; Vols. 21-22 (1985), \$140.00; Vols. 23-28 (1986-1988), \$148.00; Vols. 29-30 (1989), \$164.00; Vols. 31-32 (1990), \$173.00.

Subscriptions and orders should be addressed to the American Mathematical Society, P.O. Box 1571, Annex Station, Providence, Rhode Island 02901-1571. *All orders must be accompanied by payment, and check should be made payable to the American Mathematical Society.* General correspondence and changes of address should be sent to the American Mathematical Society, P.O. Box 6248, Providence, Rhode Island 02940-6248.

Instructions for submission of manuscripts are given inside of the back cover of this issue.

Journal of Differential Geometry (ISSN 0022-040X) is published bimonthly in January, March, May, July, September and November by Lehigh University, Christmas-Saucon Hall 14, Bethlehem PA 18015-3175. Second Class Postage Rates paid at Bethlehem, PA and an additional mailing office. Postmaster: Send address changes to Journal of Differential Geometry, American Mathematical Society, P.O. Box 6248, Providence, RI 02940.