Journal Of Pifferential Beometry

folds with bounded curvatures and diameters	1
A. Banyaga, On isomorphic classical diffeomorphism groups. II	23
M. Nagase, On the heat operators of normal singular algebraic surfaces	37
R. W. Sharpe, Total absolute curvature and embedded Morse numbers	59
J. L. Brylinski, A differential complex for Poisson manifolds	93
H. Rosenberg & E. Toubiana, Complete minimal surfaces and minimal herissons	115
R. Fintushel & R. J. Stern, Definite 4-manifolds	133
D. Gromoll & K. Grove, The low-dimensional metric foliations of Euclidean spheres	143
T. Yamaguchi, Manifolds of almost nonnegative Ricci curva- ture	157

JOURNAL OF DIFFERENTIAL GEOMETRY

Editors

ROBERT L. BRYANT

Duke University

Durham, North Carolina 27706

SIMON K. DONALDSON

University of Oxford

Oxford, England OX1 3LB

PHILLIP A. GRIFFITHS

Duke University

Durham, North Carolina 27706

C. C. HSIUNG

Lehigh University

Bethlehem, Pennsylvania 18015

H. BLAINE LAWSON, JR.

State University of New York

Stony Brook, New York 11794

RICHARD M. SCHOEN

Standord University

Stanford, California 94305

Y. T. SIU

Harvard University

Cambridge, Massachusetts 02138

S. T. YAU

Harvard University

Cambridge, Massachusetts 02138

Associate Editors

MICHAEL H. FREEDMAN

University of California

La Jolla, California 92093

RICHARD B. MELROSE

Massachusetts Institute of Technology

Cambridge, Massachusetts 02139

DAVID MUMFORD

Harvard University

Cambridge, Massachusetts 02138

ROGER PENROSE

University of Oxford

Oxford, England OX1 3LB

David Ruelle

Institut des Hautes Études Scientifiques

91440 Bur-Sur-Yvette, France

The Journal of Differential Geometry, published bimonthly by Lehigh University in January, March, May, July, September and November, 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. **27–28** (1988) is \$190.00 list, \$48.00 for personal use of individuals; each volume consists of three numbers. Back number prices per volume (with a 40% reduction for members of the American Mathematical Society): Vols. 1–2 (1967–1968), \$21.00; Vols. 3–6 (1969–1972), \$27.00; Vols. 7–9 (1972–1974), \$36.00; Vol. 10 (1975), \$45.00; Vol. 11 (1976), \$52.00; Vol. 12 (1977), \$60.00; Vols. 13–15 (1978–1980), \$63.00; Vol. 16 (1981), \$72.00; Vol. 17 (1982), \$78.00; Vols. 18–20 (1983–1984), \$120.00; Vols. 21–22 (1985), \$135.00; Vols. 23–26 (1986–1987), \$143.00.

Subscriptions and orders should be addressed to the American Mathematical Society, P. O. Box 1571, Annex Station, Providence, Rhode Island 02901-9930. 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.

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

 $Copyright @\,1988\,\, Lehigh\,\, University.\ \ \, All\,\, rights\,\, reserved.$

ISSN 0022-040X

Printed in the United States of America.

The paper used in this journal is acid-free and falls within the guidelines

established to ensure permanence and durability. @

Journal Of Pifferential Geometry

Published by LEHIGH UNIVERSITY Bethlehem, Pennsylvania

JOURNAL OF DIFFERENTIAL GEOMETRY

Editors

ROBERT L. BRYANT

Duke University

Durham, North Carolina 27706

SIMON K. DONALDSON

University of Oxford

Oxford, England OX1 3LB

PHILLIP A. GRIFFITHS

Duke University

Durham, North Carolina 27706

C. C. HSIUNG

Lehigh University

Bethlehem, Pennsylvania 18015

RICHARD M. SCHOEN Standord University

H. BLAINE LAWSON, JR.

State University of New York

Stony Brook, New York 11794

Stanford, California 94305

Y. T. SIU

Harvard University

Cambridge, Massachusetts 02138

S. T. YAU

Harvard University

Cambridge, Massachusetts 02138

Associate Editors

MICHAEL H. FREEDMAN

University of California

La Jolla, California 92093

RICHARD B. MELROSE

Massachusetts Institute of Technology

Cambridge, Massachusetts 02139

DAVID RUELLE

David Mumford Harvard University Cambridge, Massachusetts 02138

ROGER PENROSE University of Oxford Oxford, England OX1 3LB

Institut des Hautes Études Scientifiques 91440 Bur-Sur-Yvette, France

The Journal of Differential Geometry, published bimonthly by Lehigh University in January, March, May, July, September and November, is de-

voted 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. 27-28 (1988) is \$190.00 list, \$48.00 for

personal use of individuals; each volume consists of three numbers. Back number prices per volume (with a 40% reduction for members of the American Mathematical Society): Vols. 1–2 (1967–1968), \$21.00; Vols. 3–6 (1969–1972), \$27.00; Vols. 7-9 (1972-1974), \$36.00; Vol. 10 (1975), \$45.00; Vol. 11 (1976), \$52.00; Vol. 12 (1977), \$60.00; Vols. 13-15 (1978-1980), \$63.00; Vol. 16 (1981), \$72.00; Vol. 17 (1982), \$78.00; Vols. 18-20 (1983-1984), \$120.00; Vols. 21-22 (1985), \$135.00; Vols. 23-26 (1986-1987), \$143.00.

Subscriptions and orders should be addressed to the American Mathematical Society, P. O. Box 1571, Annex Station, Providence, Rhode Island 02901-9930. 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.

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