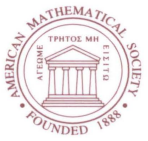
CONTEMPORARY MATHEMATICS

170

Differential Geometry and Mathematical Physics

AMS–CMS Special Session
on Geometric Methods in Mathematical Physics
August 15–19, 1993
Vancouver, British Columbia, Canada

John K. Beem
Krishan L. Duggal
Editors



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http://dx.doi.org/10.1090/conm/170

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The AMS-CMS Special Session on Geometric Methods in Mathematical Physics was held in Vancouver, British Columbia, Canada, August 15–19, 1993.

1991 *Mathematics Subject Classification.* Primary 53B30, 53C80, 83C57, 83C75.

Library of Congress Cataloging-in-Publication Data

Differential geometry and mathematical physics/[edited by] John K. Beem, Krishan L. Duggal.
p. cm. — (Contemporary mathematics, ISSN 0271-4132; v. 170)
Includes bibliographical references.
ISBN 0-8218-5172-1
1. Geometry, Differential—Congresses. 2. Mathematical physics—Congresses. I. Beem, John K., 1942– . II. Duggal, Krishan L., 1929– . III. Series: Contemporary mathematics (American Mathematical Society); v. 170.
QC20.7.G44D54 1994 94-20799
530.1'5636—dc20 CIP

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This volume was typeset by the authors using AMS-TEX,
the American Mathematical Society's TEX macro system.
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10 9 8 7 6 5 4 3 2 02 01 00 99 98

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Preface

In August 1993, the American Mathematical Society and the Canadian Mathematical Society held an international joint conference in Vancouver, British Columbia. This volume is the proceedings of a special session on "Geometric Methods in Mathematical Phyisics" organized at that conference.

The subject of differential geometry has substantial applications in mathematics and physics, with the stimulus from general relativity. This volume contains latest information on some of such applications. The major themes dealt with include studies involving black holes, singularities, censorship, the Einstein field equations, geodesics, index theory, submanifolds, CR-structures, and space-time symmetries. Also, there are papers on Yang-Mills fields, geometric techniques in control theory, and equilibria.

We are grateful to the American Mathematical Society for their support in publishing this volume. We would especially like to express our gratitude to Ms. Donna Harmon for her efforts. Finally, the editors are thankful to all the participants and the contributors whose interest and work made the publication of these proceedings possible.

Differential Geometry and Mathematical Physics
John K. Beem and Krishan L. Duggal, Editors

This book contains the proceedings of the Special Session, Geometric Methods in Mathematical Physics, held at the joint AMS-CMS meeting in Vancouver in August 1993. The papers collected here contain a number of new results in differential geometry and its applications to physics. The major themes include black holes, singularities, censorship, the Einstein field equations, geodesics, index theory, submanifolds, CR-structures, and space-time symmetries. In addition, there are papers on Yang-Mills fields, geometric techniques in control theory, and equilibria. Containing new results by established researchers in the field, the book provides a look at developments in this exciting area of research.

ISBN 0-8218-5172-1

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