

Contents

PREFACE

HYPERSURFACES WHOSE TANGENT GEODESICS OMIT A NONEMPTY SET by H. Alencar and K. Frensel	1
HOMOTOPY WITH HOLES AND MINIMAL SURFACES by F. Almgren and W. Browder	15
AN INTRINSIC GENERALIZATION FOR THE WAVE AND SINE-GORDON EQUATIONS by R. Beals and K. Tenenblat	25
REMARQUES SUR L'ÉQUATION DE J. SIMONS by P. Bérard	47
REMARKS ON THE INDEX THEOREM FOR FAMILIES OF DIRAC OPERATORS ON MANIFOLDS WITH BOUNDARY by J.-M. Bismut and J. Cheeger	59
CHOPPING RIEMANNIAN MANIFOLDS by J. Cheeger and M. Gromov	85
AN INTRODUCTION TO DUPIN SUBMANIFOLDS by S. S. Chern	95
EUCLIDEAN HYPERSURFACES WHICH MAKE A CONSTANT ANGLE by M. Dajczer and L. Rodríguez	103
HOW CAN A DRUM CHANGE SHAPE, WHILE SOUNDING THE SAME ? by D. DeTurck, H. Gluck, C. Gordon and D. Webb	111
SOME REMARKS ON SURFACES OF PRESCRIBED MEAN CURVATURE by R. Sa Earp and H. Rosenberg	123

CONFORMAL MAPPINGS OF SURFACES AND CAUCHY-RIEMANN INEQUALITIES by J.-H. Eschenburg and R. Tribuzy	149
THE GEOMETRY OF THE SOBOLEV QUOTIENTS by J. F. Escobar	171
THE GEOMETRY OF NON-LINEAR CONTROL SYSTEMS by R. B. Gardner	179
CURVATURE AND TORSION OF CONTACT RIEMANNIAN THREE-MANIFOLDS by S. I. Goldberg, D. Perrone and G. Toth	199
A MINIMAL SURFACE WITH AN ATYPICAL BOUNDARY BRANCH POINT by R. Gulliver	211
ISOPERIMETRIC REGIONS AND SOAP BUBBLES by W.-Y. Hsiang	229
HARMONIC MAPS AND GROUP REPRESENTATIONS by J. Jost and S.-T. Yau	241
ALGEBRAIC CYCLES AND GROUP ACTIONS by H. B. Lawson, Jr and M.-L. Michelsohn	261
COMPACT HYPERSURFACES: THE ALEXANDROV THEOREM FOR HIGHER ORDER MEAN CURVATURES by S. Montiel and A. Ros	279
IMMERSIONS OF LOW RANK IN DIFFERENTIAL GEOMETRY by K. Nomizu and U. Pinkall	297
A STABILITY THEOREM FOR UNBOUNDED CURVES IN \mathbb{R}^3 WITH PERIODIC CURVATURE AND TORSION by V. I. Oliker and Y. A. Volkov	303
ON THE NUMBER OF CONSTANT SCALAR CURVATURE METRICS IN A CONFORMAL CLASS by R. M. Schoen	311

CONSTRUCTIONS AND CONJECTURES IN CRYSTALLINE NONDIFFERENTIAL GEOMETRY	
by J. E. Taylor	321
ON THE DISTRIBUTION OF EIGENVALUES OF THE LAPLACIAN OF A LOCALLY SYMMETRIC SPACE	
by N. R. Wallach	337
SUBHARMONIC FUNCTIONS AND THE VOLUME OF A NONCOMPACT MANIFOLD	
by H. Wu	351
THE TEXT OF THE BANQUET ADDRESS GIVEN BY PROFESSOR MANFREDO DO CARMO ON THE OCCASION OF HIS SIXTIETH BIRTHDAY	369
LIST OF PUBLICATIONS	371