## CONTEMPORARY MATHEMATICS

205

## Multidimensional Complex Analysis and Partial Differential Equations

A Collection of Papers in Honor of François Treves

Proceedings of the Brazil-USA Conference on Multidimensional Complex Analysis and Partial Differential Equations June 12–16, 1995 São Carlos, Brazil

> Paulo D. Cordaro Howard Jacobowitz Editors



## Contents

Preface	1X
On extreme points and the strong maximum principle for CR functions S. Berhanu	1
Symplectic cones and Toeplitz operators LOUIS BOUTET DE MONVEL	15
A Lyapounov-Schmidt procedure involving a nonlinear projection Haïm Brezis and Louis Nirenberg	25
Remarks on commutators of pseudo-differential operators SAGUN CHANILLO	33
A survey on the problem of local solvability for systems of vector fields Paulo D. Cordaro	39
Extension of CR-structures for 3-dimensional pseudoconcave manifolds Charles L. Epstein and Gennadi M. Henkin	51
Analytic singularities Gábor Francsics and Nicholas Hanges	69
Asymptotic behavior of the Bergman kernel and hypergeometric functions GÁBOR FRANCSICS AND NICHOLAS HANGES	79
Quasilinear degenerate elliptic equations in divergence form PENGFEI GUAN	93
Remarks on the Klein-Gordon and Dirac equations LARS HÖRMANDER	101
Removable singularities of vector fields and the Nirenberg-Treves property JORGE HOUNIE AND JOAQUIM TAVARES	127
The Levi and Stein problems for elliptic structures HOWARD JACOBOWITZ	141
On a priori estimate on a manifold with singularity on the boundary Masatake Kuranishi	155
The problem of complexifying a Lie group László Lempert	169

viii CONTENTS

Energy methods via coherent states and advanced pseudo-differential calculus NICOLAS LERNER	177
Group invariant convex hypersurfaces with prescribed Gauss-Kronecker curvature YAN YAN LI	203
Elliptic structures G. A. Mendoza	219
Mizohata structures on $S^2$ : Automorphisms and standardness Abdelhamid Meziani	235
Holomorphically nondegenerate algebraic hypersurfaces and their mappings LINDA PREISS ROTHSCHILD	247
Analyticity of CR mappings of algebraic hypersurfaces M. S. BAOUENDI	253
Propagation of extendibility of CR functions on manifolds with edges A. Tumanov	259
A note on extremal discs and double valued reflection S. M. Webster	271