L^2 ESTIMATES AND EXISTENCE THEOREMS FOR THE $\bar{\delta}$ OPERATOR

 \mathbf{BY}

LARS HÖRMANDER

The Institute for Advanced Study, Princeton, N. J., U.S.A.(1)

Contents

CHAPTER I.	Functional analysis and first order differential operators
	1.1. Basic facts from functional analysis
	1.2. Identity of weak and strong extensions of first order differential operators 94
CHAPTER II.	Function theory in pseudo-convex domains in \mathbb{C}^n
	2.1. Notations and estimates
	2.2. Existence theorems
	2.3. Approximation theorems
	2.4. Cohomology with bounds
	2.5. Some applications
CHAPTER III.	Function theory on manifolds
	3.1. Preliminaries
	3.2. Estimates for fixed norms
	3.3. Domination estimates
	3.4. Existence and approximation theorems
	3.5. Behavior of the Bergman kernel function at the boundary

Preface

The theory of analytic function of several complex variables, as presented for example in the Cartan seminars [7], consists in a reduction to the theory of analytic functions of one complex variable. First one only studies functions in polycylinders (products of open sets in the different coordinate planes). The extension of the results to more general domains is then achieved by embedding them as submanifolds of polycylinders in spaces of high dimension. The success of this procedure depends of course on the invariance of

⁽¹⁾ This investigation was supported by the Office of Naval Research under contract No. 225(11) at Stanford University.