

HILBERT-VALUED FORMS AND BARRIERS ON WEAKLY PSEUDOCONVEX DOMAINS

VINCENT THILLIEZ

Abstract

We introduce an alternative proof of the existence of certain C^k barrier maps, with polynomial explosion of the derivatives, on weakly pseudoconvex domains in \mathbb{C}^n . Barriers of this sort have been constructed very recently by J. Michel and M.-C. Shaw, and have various applications. In our paper, the adaptation of Hörmander's L^2 techniques to suitable vector-valued functions allows us to give a very simple approach of the problem and to improve some aspects of the result of Michel and Shaw, regarding the explosion of the barrier and the regularity assumption on the domain.

Keywords. Barrier maps, weakly pseudoconvex domains, C^k estimates.
1991 Mathematics subject classifications: 32A25, 35N15, 46E99.