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Aberrant CR structures

By Howard JACOBOWITZ*) and Francois TREVES**)

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Contents

0. Introduction. Statement of results

Throughout this work Ω denotes a C^{∞} manifold, countable at infinity, of dimension $2n+1$ ($n\geq 1$). What we call here an *abstract CR structure* (to be precise one should add "of codimension one") is the datum of a C^{∞} vector subbundle $\mathscr{C}$ of the complex tangent bundle $CT\Omega$ (henceforth called *the CR bundle*) submitted to the following three conditions:

(0.1) $[\mathscr{C}, \mathscr{C}]\subset\mathscr{C}$, *i.e., the commutation bracket of any two smooth sections of* $\mathscr{C}$ *over an open subset of* Ω *is a section of* $\mathscr{C}$ *over that same subset*;

(0.2) $\mathscr{C}\cap\overline{\mathscr{C}}=\{0\}$ ($\overline{\mathscr{C}}$ is "the complex conjugate" of $\mathscr{C}$);

(0.3) *the fibre dimension over* $\boldsymbol{C}$ *of* $\mathscr{C}$ *is equal to* n.

Call $\mathscr{C}'$ the orthogonal of $\mathscr{C}$ in the complex cotangent bundle $CT^{*}\Omega$ for the duality between tangent and cotangent vectors. Note that (0.2) is equivalent to

(0.4) $$CT^{*}\Omega=\mathscr{C}'+\overline{\mathscr{C}}'\ .$$

Let Ω' be any open subset of Ω. A C^{1} function (resp., a distribution) f in Ω' is called a CR function (resp., a CR distribution) if $Lf=0$ whatever the smooth section L of $\mathscr{C}$ over Ω'. The differentials of the C^{1} CR functions are continuous sections of $\mathscr{C}'$. The CR structure $\mathscr{C}$ is said to be *locally*

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