by zero

$\mathbb{C}^n$. $\Rightarrow$ The extended T is compactly supported.

$\Rightarrow$ By the argument above,

$$\bar\partial(KT) + (-1)\, K(\bar\partial T) = (-1)^q T,$$ which implies that in case $\bar\partial T = 0$ on V, $(-1)^q T = \bar\partial(KT)$.

$\Leftrightarrow$ $T = \bar\partial((-1)^q KT)$ on V $\quad (-1)^q KT \in \mathcal{D}^{0,q-1}(V)$.

$\Rightarrow$ This proves the complex of sheaves

$$0 \to \Omega^0 \longrightarrow \mathcal{D}^{0,1} \longrightarrow \mathcal{D}^{0,2} \to \cdots \to \mathcal{D}^{0,n} \to 0$$

is exact. ⅃

This completes the argument establishing the isomorphisms

$$H^{p,*}_{\bar\partial}(M) \longrightarrow H^{p,*}(\mathcal{D}^{p,*}(M), \bar\partial),$$

$$H^*_{DR}(M) \longrightarrow H^*(\mathcal{D}^*(M), d),$$

which we shall refer to as smoothing of cohomology.

$$\ulcorner \quad H^{p,q}_{\bar\partial}(M) = H^q(M, \Omega^p) \cong H^q_{\bar\partial}(M, \mathcal{D}^{p,*}) = \frac{Z^{p,q}_{\bar\partial}(M)}{\bar\partial \mathcal{D}^{p,q-1}(M)}$$

~~see p45~~

See P127 note. ⅃

2. Applications of Currents to Complex Analysis

Currents Associated to Analytic Varieties

Let M be a complex manifold. The currents $\mathcal{D}^{p,p}(M)$ of