List of Symbols

I. Ω_X^m
$\mathscr{C}_X$
$\mathscr{F}_{X,\mathbb{R}}$
$\mathscr{F}(U,\mathbb{R})$

1.1. $\mathscr{C}_X^\infty$
A_X^m
$A_X^{k,l}$
PH_X

1.2. $[\varphi]$
$[\mathscr{C}_X^\infty]$

2.1. P_X^0
SP_X^0
P_X^∞
SP_X^∞
$[P_X^\infty]$
$[SP_X^\infty]$

2.4. $SP^{0,\infty}(U,V)$

2.6. SP_π^∞

3.1. $\mathrm{Sym}^k(X)$
$\sum\{x_j\}$

3.2. $\mathbf{B}_m(X)$

3.3. $\mathbf{D}_m(X)$
$c(Y)$

3.4. $F_\varphi(c)$
$(c\cdot\xi)$

3.5. $\pi_*\varphi$
$\mathbf{B}_m(X)^{(0)}$

II.

1.1. $\mathscr{H}_X^1$
$\mathscr{H}_{X,\mathbb{R}}^1$
$\partial\bar{\partial}\kappa$

1.2. $\hat{c}_1$
c_1
$\tilde{c}_1$

3.1. $\mathrm{Tr}_{X/X'}^{(c)}$
$\mathrm{Tr}_{X/X'}^{(h)}$

4.1. $\mathscr{W}_X$
WPH_X
$\hat{X}$

III.

1.1. $\underline{X}$
$F:\underline{X}\to\underline{Y}$
$\underline{U}\ll\underline{X}$
$\underline{U}_1\cap\underline{U}_2$
ε
δ
$\varphi|\underline{U}$
T

1.2. $\varphi\cdot\psi$

2.1. $\check{C}^q(\underline{X};\mathscr{F},\mathscr{L}^\cdot)$
Δ
$\check{Z}^q(\underline{X};\mathscr{F},\mathscr{L}^\cdot)$
$\check{H}^q(\underline{X};\mathscr{F},\mathscr{L}^\cdot)$

3.1. $\mathscr{L}_m^r$
D

3.3 φ^*
$\mathscr{L}_{m,\mathbb{R}}^r$

3.4. μ

3.5. $\mathscr{G}_m^q$
$\hat{d}$
β
γ

3.6. $\mathscr{E}_m^q(\underline{X})$
$\mathscr{E}_m^q(\underline{X},[\mathbb{R}])$
$\mathscr{E}_m^q(\underline{X},\mathbb{R})$

4.2. $\Phi_1(f,\varphi)$

4.3. $\mathscr{K}^m(\underline{X}),\ \mathscr{K}(\underline{X})$
$\mathscr{K}^m(\underline{X},[\mathbb{R}]),\ \mathscr{K}(\underline{X},[\mathbb{R}])$
$\mathscr{K}^m(\underline{X},\mathbb{R}),\ \mathscr{K}(\underline{X},\mathbb{R})$

4.4. $\Phi\times\Psi$

5.4. $\mathscr{D}_m^q(\underline{X})$
$\hat{\Delta}$

IV.

3.1. $\mathscr{C}$
$\mathscr{C}^*$

I. Preliminaries

X will always denote a complex space, not necessarily reduced unless explicitly stated. $X_{\mathrm{red}}\to X$ denotes the reduction of X. $\mathscr{O}_X=\Omega_X^0$ is the structure sheaf of X and Ω_X^m the sheaf of holomorphic m-forms on X. $\mathscr{C}_X$ is the sheaf of continuous functions on the topological space underlying to X. If $\mathscr{F}=\mathscr{F}_X$ is any sheaf on X, $\mathscr{F}(U)$ will denote $\Gamma(U,\mathscr{F}_X)$. If $\mathscr{F}_X$ is a sheaf of $\mathbb{C}$-vector spaces with a natural $\mathbb{C}$-antilinear involution, $\mathscr{F}_{X,\mathbb{R}}$ will denote the subsheaf of elements left fixed by the involution and $\mathscr{F}(U,\mathbb{R}):=\Gamma(U,\mathscr{F}_{X,\mathbb{R}})$. We always assume X countable at infinity.

1. $\mathscr{C}^\infty$ Forms and Functions on Complex Spaces

There are two inequivalent definitions of $\mathscr{C}_X^\infty$ in the literature. The first, which we call the "old" one [5, 10, 21] defines $\mathscr{C}_X^\infty$ as the subsheaf of $\mathscr{C}_X$ consisting of local