

$$\begin{array}{l} \mathop{p}_p:=\{\\ \mathop{p}_p\}\\ \mathop{p}_p^-\subseteq_p^\times\\ \mathop{A}_j\\ \mathop{A}_j^-\subseteq\\ \mathop{A}^\times\mathop{A}^-\subseteq\\ \mathop{A}^-\supseteq\\ \mathop{U}_{jj}\\ \mathop{p}_p^-\mathop{p}_p\\ (f,U)_p\\ (f,U)\\ (f,U)_p\in_p\\ \mathop{-}_pf(p)\neq\\ 0\\ \mathop{f}_U\\ \mathop{V}\subseteq\\ \mathop{U}\\ f(q)\neq\\ 0,\forall q\in\\ V(1/f,V)\\ \mathop{\frac{p}{2}}\cong\\ \mathop{T}^*_pX\\ \mathop{T}^*_pX\\ \mathop{X}_p\\ (f,V)_{p+}{}^2_p\longmapsto df_p=\sum_i\left.\frac{\partial f\circ\varphi^{-1}}{\partial x^i}\right|_p(dx^i)_p,\end{array}$$

$$\begin{array}{l} \delta_p\in\\ T_pX\cong\\ Der_p(C^1(X))\\ \mathop{p}\\ df_p(\delta_p)=\\ \delta_pf\in\\ h\in_p^2\\ dh_p=\\ 0\\ (g,U)\sim\\ (f,V)\\ \mathop{p}\in\\ W\subseteq\\ U\cap\\ V\\ f|_W-\\ g|_W=\\ 0\\ (df_p-\\ dg_p)(\delta)=\\ \delta_p(f)-\\ \delta_p(g)\\ \phi(x)=\\ 1,\forall x\in\\ W'\ni\\ \mathop{p}\\ \phi(x)=\\ 0,\forall x\in\\ U\cap\\ V-\\ W=\\ 0=\\ \delta_p(f|_{W'}-\\ g|_{W'})=\\ \delta_p((f-\\ g)\phi|_{W'})=\\ (f(p)-\\ g(p))\delta_p(\phi)+\\ \delta_p(f-\\ g)\phi(p)\delta_p(f-\\ g)=\\ 0\\ (dx^j)_p\\ \mathop{p}\\ (V,\varphi)\\ \varphi(p)=\\ 0\in^n\\ \mathop{x_i}_i\\ \phi\end{array}$$

$$X_{B,U}](V)[l, \text{''res}_{V,U}\text{''}'](W)[l, \text{''res}_{W,V}\text{''}'] [ll, \text{''res}_{W,V}\text{''}, bundleft]$$

$$\{U_i\}_{i\in I}$$

$$U_n :=$$

$$\{z\in:$$

$$n-\frac{1}{2}$$

$$Re z <$$

$$n+\frac{1}{2}$$

$$f_n(z):=$$

$$\tilde{h}^2(z)$$

$$h(z)$$

$$U_{\mathcal{A}}$$

$$\{2<$$

$$|z|<$$

$$3\}$$

$$U_{\mathcal{A}}$$

$$D_n:=$$

$$\{|z-\frac{5}{2}e^{in2\pi/10}|<$$

$$1\}$$

$$\sqrt{z}$$

$$\sqrt{z}$$

$$(\cup_{i\in I}U_i)$$

$$\frac{1}{i}$$

$$i\leq$$

$$j_{U_iU_j}$$

$$(\cup_{i\in I}U_i)$$

$$(\cup_{i\in I}U_i)(U_k)$$

$$\cup_i U_i, U_k$$

$$(\cup_{i\in I}U_i)=_{i\in I}(U_i)$$

$$^n$$

$$_{U,U_i}f_1=_{U,U_i}$$

$$f_2,\forall U_i$$

$$f_1(p)=$$

$$f_2(p)\forall p\in$$

$$_{U_i,\forall U_i}$$

$$f_1$$

$$f_2$$

$$U_{\mathcal{A}}$$

$$\{U_i\}_{i\in I}$$

$$\{\rho_i\}_{i\in I}$$

$$\rho_i$$

$$\{f_i\in$$

$$C^k(M)\}$$

$$f=$$

$$\sum_i \rho_i(x) f_i(x) \in$$

$$C^k(M)$$

$$f_i$$

$$C^k(M)$$

$$(a)$$

$$C(X)$$

$$X_{B,U}$$

$$f_1(p)=$$

$$f_2(p)$$

$$U_{\mathcal{A}}$$

$$f(p)=$$

$$f_i(p)$$

$$f_i\in$$

$$C(U_i)$$

$$p\in$$

$$U_i$$

$$f_{U_i}$$

$$f(p)\in$$

$$V_{\mathcal{A}}$$

$$f(p)=$$

$$f_i(p)$$

$$f_i\in$$

$$p\in$$

$$W\subset$$

$$U_i$$

$$f_i(W)\subset$$

$$V_{\mathcal{A}}$$

$$U_{\mathcal{A}}$$

$$_{U,W}f=_{U_s,W}$$

$$\circ_{U,U_i}f=_{U_i,W}$$

$$^{\mathcal{A}}$$

$$\mathop{\dot{0}}^{??}(U)_X(U)(U)0$$

$$\begin{array}{c} (U)_X(U) \\ \phantom{(U)}_X(U)(U) \end{array}$$

$$g\in \binom{U}{U}$$

$$\frac{1}{2\pi i}\log g =$$

$$\hbar\in_X\binom{U}{U}$$

$$\exp(2\pi h)=_g$$

$$\phantom{\ker(f\mapsto}_X(U)$$

$$\ker(f\mapsto \exp(2\pi i f))=$$

$$\exp(2\pi i f))=\binom{(U)_X(U)}{(U)}$$

$$p\in \ker(f\mapsto$$

$$\exp(2\pi i f))\exp(2\pi i p)=$$

$$\downarrow_U$$

$$\mathop{0}\limits_{(U)}$$

$$(U)\prod_{p\in U}p$$

$$f_1,f_2\in \binom{U}{U}$$

$$^p_U$$

$$U_p,V_p$$

$$(f_1|_{U_p};U_p)\sim (f_2|_{V_p};V_p)$$

$$W_p$$

$$f_1|_{W_p}=$$

$$f_2|_{W_p}$$

$$W_p$$

$$\{W_p\}_{p\in U}$$

$$^U_U$$

$$f_1,f_2$$

$$W_p$$

$$f_1=$$

$$f_2$$

$$(s)$$

$$p\notin (s)$$

$$s_p=$$

$$0\in_p$$

$$[(s|_V;V)]=$$

$$[(0;U)]$$

$$^W_p$$

$$s|_W=$$

$$\mathop{0}\limits_W$$

$$W\in$$

$$X^-$$

$$(s)$$

$$(s)$$

$$^U_U$$

$$\prod_{p\in U}s_p$$

$$\{U_i\}_{i\in I}$$

$$f_i\in$$

$$\binom{U_i}{U_i}$$

$$(f_i)_p=$$

$$s_p\in$$

$$^p\in$$

$$U_i f_i|_{U_i\cap U_j}=$$

$$f_j|_{U_i\cap U_j}$$

$$f\in$$

$$\binom{U}{U}$$

$$f|_p=$$

$$s_p$$

$$\phi_1$$

$$\phi_2$$

$$\mathbf{presheaf}$$

$$\mathbf{sheaf}$$

$$\phi_1=$$

$$\phi_2$$

$$\phi(U)''\bigr](U)[d,hook]\prod_{p\in U}p[r,``\prod\phi_p''']\prod_{p\in U}p$$