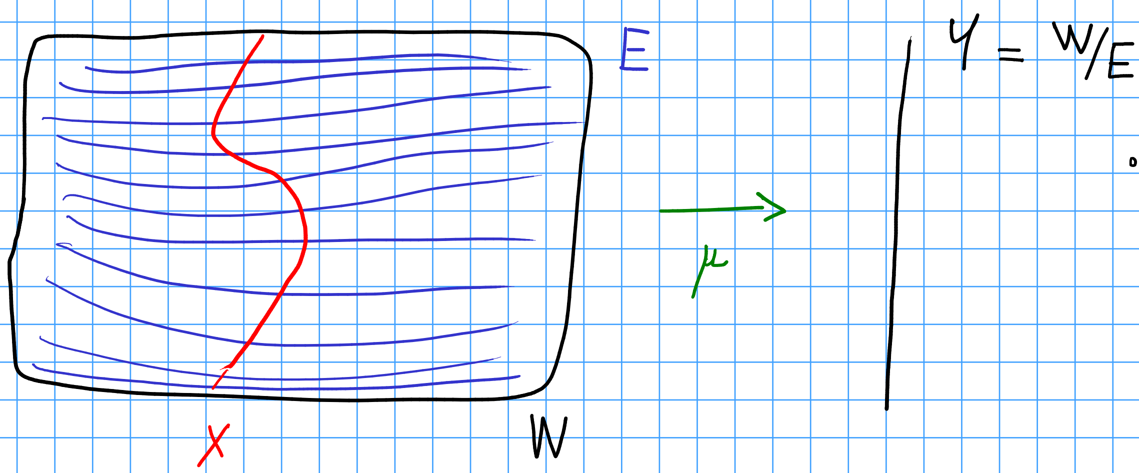
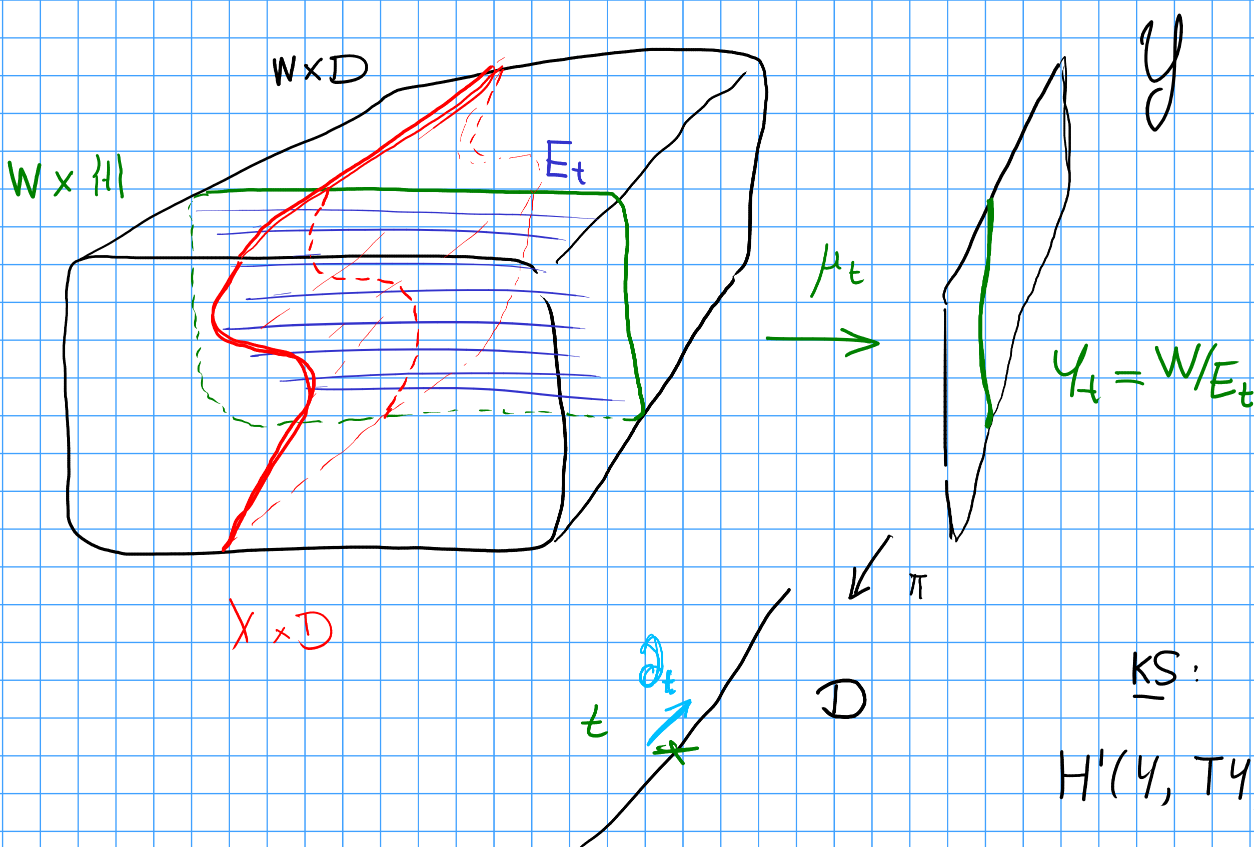


$$0 \to E \to TW \xrightarrow{d\mu} \mu^*TY \to 0$$



KS:

$$H^1(Y, TY) \simeq T_0 D$$

$\Omega^1_\mu := E^*$ $\qquad \Omega^1_\mu \hookrightarrow \Omega^1_W$

et $D \longrightarrow \mathcal{H}$

$t \longmapsto E_t$

$$\mathcal{H} := \{ F \longrightarrow W \text{ holo subbundle of } TW \}$$

$$T_{[E]}\mathcal{H} \simeq \Gamma(W, \mathcal{O}(Hom(E, \underbrace{TW/E}_{\mu^*TY}))) \simeq \Gamma(W, \Omega^1_\mu(\mu^*TY))$$

$\left.\frac{\partial E_t}{\partial t}\right|_0 \in T_{[E]}\mathcal{H} \quad = \quad \varphi \in \Gamma(W, \Omega^1_\mu(\mu^* TY))$

φ morralement : $E \longrightarrow TY$ $\qquad \xi(t) \in \Gamma(W, E_t) \ \forall t$

$\varphi(\xi(0)) = \mu_*\left(\left.\frac{d\xi}{dt}\right|_0\right) \qquad \left.\frac{d\xi}{dt}\right|_0 \in \Gamma(W, TW)$

En fait $\mathcal{D} \longrightarrow \mathcal{H}^{int} \subseteq \mathcal{H}$ car $[E_t, E_t] \subseteq E_t$

donc $\frac{dE_t}{dt} \in \underbrace{T_{[E]}\mathcal{H}^{int}}_{K}$ ie $\varphi \in \ker\left(d_\mu : \Omega^1_\mu(\mu^*TY) \longrightarrow \Omega^2_\mu(\mu^*TY)\right)$

$$0 \to K \to \Omega^1_\mu(\mu^*TY) \xrightarrow{d_\mu} \Omega^2_\mu(\mu^*TY) \to$$

K espace tangent en E à l'espace des feuilletages sur W.

$$\mathcal{O}_W(\mu^*TY) \xrightarrow[d_\mu]{} \Omega^1_\mu(\mu^*TY)$$

$$\begin{array}{l} \mu^{-1}\mathcal{O}(TY) \\ \downarrow \\ \mathcal{O}(\mu^*TY) \\ \downarrow \\ 0 \to K \to \Omega^1_\mu(\mu^*TY) \xrightarrow{d_\mu} \Omega^2_\mu(\mu^*TY) \\ \quad\ \ \downarrow \\ \quad\ \ 0 \end{array}$$

$\ker(d_\mu) = v \in \mathcal{O}_W(\mu^*TY)$

tq $d_\mu(v) = 0$

$\forall L \subseteq W \quad \mu_* L = pt$

$v_{|L} \in \Gamma(L, \mathcal{O}_W(\mu^*TY)_{|L})$

$$0 \to \underbrace{K(\mu^*\Omega^1_Y)}_{\widetilde{K}} \xrightarrow{d_\mu} \Omega^1_\mu \xrightarrow{d_\mu} \Omega^2_\mu \to \cdots$$

$L \subseteq W \quad \mu_* L = pt \subseteq Y$

On a $\Omega^k_\mu|_L \simeq \Omega^1_L$

et donc $0 \to \widetilde{K}_{|L} \to \Omega^1_L \to \Omega^2_L \to \cdots$

$\overset{=}{\ } \quad 0 \to \mathbb{C} \to \mathcal{O}_L \to \Omega^1_L \to \Omega^2_L \to \cdots$

donc $\widetilde{K}_{|L} \simeq \mathbb{C}$

$$0 \to \mathcal{J}_{L|L} \to \mathcal{O}_{W|L} \longrightarrow \mathcal{O}_L \to 0$$

$$0 \to \mathcal{J}(\mu^*TY) \to \mathcal{O}_{W|L}(\mu^*TY) \longrightarrow \mathcal{O}_L(\mu^*TY) \to 0$$

$$v_{|L} \longmapsto \hat{v}$$

$$\mathcal{O}_L \xrightarrow{d} \Omega^1_L \simeq \Omega^1_\mu$$

$d_\mu(v) = d\hat{v} \in \Omega^1_\mu(\mu^*TY)$

$d\hat{v} = 0$ ssi $\hat{v} = cst$ sur L

et ce $\forall L$

$$\mathcal{O}_W(\mu^*TY) = \mu^{-1}\mathcal{O}_Y(TY) \otimes_{\mu^{-1}\mathcal{O}_Y} \mathcal{O}_W$$