



$$\mathbb{F} = \frac{\mathbb{F}}{\mathbb{R} \mathbb{e} \subset \mathbb{F}}$$

$$\mathbb{F} = \mathbb{R} \frac{\lim \overline{b}_k}{\mathbb{F} \cap U \not\cong \mathbb{F}_k \simeq 0}$$

$$\subset : \mathbb{F} \in \mathbb{F} \Rightarrow \mathbb{R} \mathbb{e} \subset \mathbb{F} \Rightarrow \bigwedge_{1 < k} \mathbb{F} \cap U \not\cong \mathbb{F}_k \simeq 0 \Rightarrow \mathbb{F} = \overline{\mathbb{F}} \lim \frac{\overline{\mathbb{F}}}{k} \text{ cst folg}$$

$$\supset : \mathbb{F} = s \lim \overline{\mathbb{F}_k}$$

$$\overline{\mathbb{F}_k} = \frac{\overline{\mathbb{F}_k}}{\mathbb{F}_k}$$

$$t \in \mathbb{R} \xrightarrow{\text{OE}} 0 \leq st$$

$$m_k = \left[\frac{st}{\overline{\mathbb{F}_k}} \right] \Rightarrow st - \overline{\mathbb{F}_k} < m_k \overline{\mathbb{F}_k} \leq st \Rightarrow m_k \overline{\mathbb{F}_k} \simeq st$$

$$\mathbb{F} \ni \mathbb{F} \mathbb{e}^{m_k} = m_k \mathbb{F} \mathbb{e} = m_k \overline{\mathbb{F}_k} \overline{\mathbb{F}_k} \mathbb{e} \simeq t \mathbb{F} \mathbb{e} \in \overline{\mathbb{F}} = \mathbb{F} \Rightarrow \mathbb{F} \in \mathbb{F}$$

$$\underline{\mathbb{H}} \subset_{\text{lin}} \underline{\mathbb{H}}$$

$$\dot{v} \in \underline{\mathbb{H}} \Rightarrow {}^t\dot{\varphi} = {}^t\dot{v}_e \in \underline{\mathbb{H}} \cap V \Rightarrow {}^t\varphi {}^t\dot{\varphi} \in \underline{\mathbb{H}} \cap U$$

$$\text{diff } {}^t\dot{v} = {}^t\varphi {}^t\dot{\varphi}|_{\mathcal{X}} \rightsquigarrow {}^0\dot{v} = 0$$

$$\sim \dot{v} = (\varphi \times \dot{\varphi}) \times \mu \times \mathcal{X} \Rightarrow \frac{{}^{1/k}\dot{v}}{1/k} \rightsquigarrow {}^0\dot{v} = {}^0\varphi \times \dot{\varphi} \stackrel{e:e}{\mu} \stackrel{e}{\mathcal{X}} = (\dot{v} : \dot{v}') + \iota = \dot{v} + \dot{v}'$$

$$\overline{\dot{v} + \dot{v}'} \stackrel{{}^{1/k}\dot{v}}{\overline{{}^{1/k}\dot{v}}} = \overline{\dot{v} + \dot{v}'} \stackrel{{}^{1/k}\dot{v}}{1/k} \frac{1/k}{\overline{{}^{1/k}\dot{v}}} \rightsquigarrow \overline{\dot{v} + \dot{v}'} \ni \dot{v} + \dot{v}' \overline{\dot{v} + \dot{v}'} = \dot{v} + \dot{v}' \in \underline{\mathbb{H}}$$

$$\underline{\mathbb{H}} \supset \underline{\mathbb{H}}_e \ni e \text{ e-nbhd} \Rightarrow \underline{\mathbb{H}} \supset \underline{\mathbb{H}} \cap W_e$$

$$\nexists \underline{\mathbb{H}}_e \text{ not e-nbhd} \Rightarrow \bigvee_{h_k \in \underline{\mathbb{H}}} \underline{\mathbb{H}}_e \not\supset h_k \rightsquigarrow e$$

$$\underline{\mathbb{H}} = \underline{\mathbb{H}} \times \mathcal{V} \ni (\dot{v} : \dot{v}') \mapsto \dot{v}_e \dot{v}'_e \in \underline{\mathbb{H}} \text{ diffeo at } e \Rightarrow h_k = \dot{v}_{ke} \dot{v}'_{ke}$$

$$\underline{\mathbb{H}} \ni \dot{v}_k \rightsquigarrow 0$$

$$\mathcal{V} \ni \dot{v}'_k \rightsquigarrow 0 : \dot{v}'_k \neq 0$$

$$\text{OE } \overline{\dot{v}'_k} \rightsquigarrow \dot{v}' \in \mathcal{V}$$

$$\dot{v}_{ke} = \left(\dot{v}_{ke} \right)^{-1} h_k \in \underline{\mathbb{H}} \cap U \Rightarrow \dot{v}'_k \in \underline{\mathbb{H}} \mathcal{X} \cap U \Rightarrow \dot{v}' \in \underline{\mathbb{H}} \cap \mathcal{V} = 0 \nexists$$

$$\text{Atlas } \bigwedge_{h \in \underline{\mathbb{H}}} \underline{\mathbb{H}} \supset h \underline{\mathbb{H}} \cap W_e \xrightarrow{\downarrow h} \underline{\mathbb{H}} \cap W$$

$$m \mapsto h^{-1} m \mathcal{X}$$

$$\Rightarrow \underline{\mathbb{H}} \in \mathbb{K} \Delta_{\omega}$$