

$$\mathbb{1} = \mathcal{V}^I \tilde{\mathbb{1}}_I$$

$${}_I \mathbb{1} \in \mathfrak{h}_{\infty} \mathbb{K}$$

$${}_I \mathbb{1} \stackrel{\text{Taylor}}{=} \sum_{|\mu| < k} \overbrace{\mathcal{V}^j - {}^o \mathcal{V}^j \mathbb{1}}^{\mathbb{K}} \overbrace{\mu \mathcal{U}_I \mathbb{1}}^{\circ} + \sum_{|\mu| = k} \overbrace{\mathcal{V}^j - {}^o \mathcal{V}^j \mathbb{1}}^{\mathbb{K}} \int_{dt}^{0|1} (1-t)^{k-1} k^{\circ \mathcal{V} + t \overline{\mathcal{V} - {}^o \mathcal{V}}} \overbrace{\mu \mathcal{U}_I \mathbb{1}}^{\circ}$$

$$= \sum_{|\mu| < k} \overbrace{\mathcal{V}^j - {}^o \mathcal{V}^j \mathbb{1}}^{\mathbb{K}} \overbrace{\mu \mathcal{U}_I \mathbb{1}}^{\circ} + \sum_{|\mu| = k} \overbrace{\mathcal{V}^j - {}^o \mathcal{V}^j \mathbb{1}}^{\mathbb{K}} \mathbb{1}_k$$

$${}_I \mathbb{1}_k = \int_{dt}^{0|1} (1-t)^{k-1} k^{\circ \mathcal{V} + t \overline{\mathcal{V} - {}^o \mathcal{V}}} \overbrace{\mu \mathcal{U}_I \mathbb{1}}^{\circ} \in \mathfrak{h}_{\infty} \mathbb{K}$$

$$\mathbb{1} = \mathcal{V}^I \underbrace{\sum_{|\mu| < k} \overbrace{\tilde{\mathcal{V}}^j - {}^o \mathcal{V}^j \mathbb{1}}^{\mathbb{K}} \overbrace{\mu \tilde{\mathcal{U}}_I \tilde{\mathbb{1}}_I}^{\circ} + \sum_{|\mu| = k} \overbrace{\tilde{\mathcal{V}}^j - {}^o \mathcal{V}^j \mathbb{1}}^{\mathbb{K}} \mathbb{1}_k}_{\circ}$$

$$\circ \mathcal{J} = \frac{\mathbb{1} \in U^q \mathfrak{h}_{\infty} \mathbb{K}}{\circ \mathbb{1} = 0} \subset U^q \mathfrak{h}_{\infty} \mathbb{K} \text{ ideal}$$

$$U^q \mathfrak{h}_{\infty} \mathbb{K} = \mathbb{R}^q \mathfrak{h}_{\infty} \mathbb{K} \mathfrak{z} U \mathfrak{h}_{\infty} \mathbb{K}$$

$$\circ \mathcal{J} = \{ \tilde{\mathcal{V}}^j - {}^o \mathcal{V}^j \mathcal{V}^i \} U^q \mathfrak{h}_{\infty} \mathbb{K}$$

$$\circ (\tilde{\mathcal{V}}^j - {}^o \mathcal{V}^j \mathbb{1}) = \overbrace{\tilde{\mathcal{V}}^j - {}^o \mathcal{V}^j \mathbb{1}}^{\circ} = {}^o \mathcal{V}^j - {}^o \mathcal{V}^j = 0 \Rightarrow \tilde{\mathcal{V}}^j - {}^o \mathcal{V}^j \mathbb{1} \in \circ \mathcal{J} \supset \circ \mathcal{J} \ni \mathcal{V}^i$$

$${}_I \mathbb{1} = {}^o \mathbb{1} + \sum_j \overbrace{\mathcal{V}^j - {}^o \mathcal{V}^j \mathbb{1}}^{\circ} \int_{dt}^{0|1} k^{\circ \mathcal{V} + t \overline{\mathcal{V} - {}^o \mathcal{V}}} \overbrace{j \mathcal{U}_I \mathbb{1}}^{\circ} = {}^o \mathbb{1} + \sum_j \overbrace{\mathcal{V}^j - {}^o \mathcal{V}^j \mathbb{1}}^{\circ} \mathbb{1}_1$$

$${}_I \mathbb{1}_1 = \int_{dt}^{0|1} k^{\circ \mathcal{V} + t \overline{\mathcal{V} - {}^o \mathcal{V}}} \overbrace{j \mathcal{U}_I \mathbb{1}}^{\circ} \in \mathfrak{h}_{\infty} \mathbb{K}$$

$$\circ \mathcal{J} \ni \mathbb{1} = \mathcal{V}^I \tilde{\mathbb{1}}_I = \circ \mathbb{1} + \sum_{\circ \neq I} \mathcal{V}^I \tilde{\mathbb{1}}_I = \circ \mathbb{1} + \sum_j \overbrace{\mathcal{V}^j - {}^o \mathcal{V}^j \mathbb{1}}^{\circ \mathcal{J}} \circ \mathbb{1}_1 + \sum_{\circ \neq I} \overbrace{\mathcal{V}^I}^{\circ \mathcal{J}} \tilde{\mathbb{1}}_I$$

$$\Rightarrow \circlearrowleft \mathfrak{r} = 0 \Rightarrow \mathfrak{r} \in \langle \tilde{\mathfrak{v}}^j - \circlearrowleft \mathfrak{v}^j : \mathfrak{v}^i \rangle_{U^q} \triangleleft_{\infty} \mathbb{K}$$

$$\mathfrak{r} - \mathfrak{v}^I \sum_{|\mu| < k} \overline{\tilde{\mathfrak{v}}^j - \circlearrowleft \mathfrak{v}^j}^{\mu} \circlearrowleft \tilde{\mathfrak{v}}_{\mu-I} \tilde{\mathfrak{r}} \in \circlearrowleft \mathcal{J}^k$$

$$\text{LHS} = \mathfrak{v}^I \sum_{|\mu| = k} \overline{\tilde{\mathfrak{v}}^j - \circlearrowleft \mathfrak{v}^j}^{\mu} \tilde{\mathfrak{r}}_{I\mu}$$

$$\overline{\tilde{\mathfrak{v}}^j - \circlearrowleft \mathfrak{v}^j}^{\mu} \in \circlearrowleft \mathcal{J}^k \xRightarrow{\text{ideal}} \text{Beh}$$

$$\circlearrowleft \mathcal{J}^{q+1} \subseteq \{ \tilde{\mathfrak{v}}^j - \circlearrowleft \mathfrak{v}^j \}_{U^q} \triangleleft_{\infty} \mathbb{K}$$

$$\circlearrowleft \mathcal{J}^{q+1} \ni \mathfrak{r} = \sum_{|\mu| + |I| > q} \overline{\tilde{\mathfrak{v}}^j - \circlearrowleft \mathfrak{v}^j}^{\mu} \mathfrak{v}^I \tilde{\mathfrak{r}}_{I\mu}$$

$$\mu = 0 \Rightarrow |I| > q \Rightarrow \mathfrak{v}^I = 0$$

$$\Rightarrow \mathfrak{r} = \sum_{\mu \neq 0}$$

$$|\mu| + |I| > q \overline{\tilde{\mathfrak{v}}^j - \circlearrowleft \mathfrak{v}^j}^{\mu} \mathfrak{v}^I \tilde{\mathfrak{r}}_{I\mu} \in \langle \tilde{\mathfrak{v}}^j - \circlearrowleft \mathfrak{v}^j \rangle_{U^q} \triangleleft_{\infty} \mathbb{K}$$

$$\bigcap_{\mathfrak{h} \in \bar{\mathfrak{h}}} \circlearrowleft \mathcal{J}^{q+1} = 0$$