

$$\mathfrak{h} \overset{\gamma}{\rightarrow} 1 \Rightarrow \mathfrak{h} \overset{\overline{\gamma}^p}{\longrightarrow} \mathbb{R}_+$$

$$\gamma \in \mathfrak{h}^0_{\triangle_0} 1 \Rightarrow \overline{\gamma}^p \in \mathfrak{h}^0_{\triangle_0} \mathbb{R}_+ \Rightarrow \overline{\gamma}^p_p = \overbrace{\int_{\mu} \overline{\gamma}^p}^{1/p} = \overbrace{\int_{\mu} \overline{\gamma}^p}^{1/p} < \infty$$

$$\overline{\gamma + \acute{\gamma}} \leq \overline{\gamma} + \overline{\acute{\gamma}}$$

$$\overline{\gamma a} = \overline{\gamma} \overline{a}$$

$$|\overline{\gamma} \overline{\acute{\gamma}}| \leq \overline{\gamma} \overline{\acute{\gamma}}$$

$$\overline{\gamma + \acute{\gamma}} \leq \overline{\gamma} + \overline{\acute{\gamma}} \Rightarrow \overline{\gamma + \acute{\gamma}} = |\overline{\gamma + \acute{\gamma}}| \leq |\overline{\gamma}| + |\overline{\acute{\gamma}}| = \overline{\gamma} + \overline{\acute{\gamma}}$$

$$\overline{\gamma a} = \overline{\gamma} \overline{a} \Rightarrow \overline{\gamma a} = |\overline{\gamma a}| = |\overline{\gamma} \overline{a}| = |\overline{\gamma}| \overline{a} = \overline{\gamma} \overline{a}$$

$$|\overline{\gamma} \overline{\acute{\gamma}}| \leq |\overline{\gamma}| |\overline{\acute{\gamma}}| = \overline{\gamma} \overline{\acute{\gamma}}$$

$$\mathfrak{h}^p_{\triangle_m} 1 = \frac{\mathfrak{h} \overset{\gamma}{\rightarrow} 1}{\bigvee \gamma_k \in \mathfrak{h}^0_{\triangle_0} 1: \overline{\gamma - \gamma_k} \rightsquigarrow 0}$$

$$\mathfrak{h}^p_{\triangle_m} 1 \ni \gamma \Rightarrow \overline{\gamma} < \infty$$

$$\mathfrak{h}^p_{\triangle_m} 1 \in \mathfrak{h}^n_{\triangle_0} \mathbb{K} \text{ halb-norm} \Rightarrow \mathfrak{h}^p_{\triangle_m} 1 \models \frac{1 \in \mathfrak{h}^p_{\triangle_m} 1}{\overline{1} = 0} \in \mathfrak{h}^n_{\triangle_0} \mathbb{K} \text{ norm}$$

$$\acute{\gamma} \in \mathfrak{h}^p_{\triangle_m} 1 \Rightarrow \left\{ \begin{array}{l} \bigvee \acute{\gamma}_k \in \mathfrak{h}^0_{\triangle_0} 1 \\ \overline{\acute{\gamma} - \acute{\gamma}_k} \rightsquigarrow 0 \end{array} \right. \Rightarrow \gamma_k a + \acute{\gamma}_k \acute{a} \in \mathfrak{h}^0_{\triangle_0} 1$$

$$\overline{\gamma a + \acute{\gamma} \acute{a} - \gamma_k a + \acute{\gamma}_k \acute{a}} = \overline{\gamma - \gamma_k} a + \overline{\acute{\gamma} - \acute{\gamma}_k} \acute{a} \leq \overline{\gamma - \gamma_k} \overline{a} + \overline{\acute{\gamma} - \acute{\gamma}_k} \overline{\acute{a}} \rightsquigarrow 0$$

$$\mathfrak{h}_{\triangle_0^p} 1 \text{ voll} \Rightarrow \mathfrak{h}_{\triangle_m^p} 1 = \frac{1 \in \mathfrak{h}_{\triangle_m^p} 1}{\overline{1} = 0} \text{ voll treu}$$

$$\mathfrak{h}_{\triangle_m^p} 1 \ni \gamma_k \Rightarrow_{\text{OE}} \overline{\gamma_k - \gamma_{k+1}} \leq 2^{-k} \Rightarrow \begin{cases} \forall 1_k \in \mathfrak{h}_{\triangle_0^p} 1 \\ \overline{\gamma_k - 1_k} \leq 2^{-k} \end{cases}$$

$$\Rightarrow \overline{1_k - 1_{k+1}} \leq \overline{1_k - \gamma_k} + \overline{\gamma_k - \gamma_{k+1}} + \overline{\gamma_{k+1} - 1_{k+1}} \leq 2^{-k} + 2^{-k} + 2^{-1-k} \leq 2^{2-k}$$

$$\text{Sei } \mathfrak{h} \xrightarrow{1} 1 \bigwedge_{x \in \mathfrak{h}} 1 \ni {}^x 1_k \Rightarrow {}^x 1 \stackrel{\text{LEM}}{\rightsquigarrow} {}^x 1_k \Rightarrow \overline{1 - 1_k} \leq \sum_{j \geq k} \overline{1_{j+1} - 1_j}$$

$$\stackrel{\text{LEM}}{\Rightarrow} \overline{1 - 1_k} = \overline{1 - 1_k} \leq \sum_{j \geq k} |\overline{1_{j+1} - 1_j}| \leq \sum_{j \geq k} \overline{1_{j+1} - 1_j} \leq \sum_{j \geq k} 2^{2-j} = 2^{3-k} \Rightarrow 1 \in \mathfrak{h}_{\triangle_m^p} 1$$

$$\overline{\gamma_k - 1} \leq \overline{\gamma_k - 1_k} + \overline{1_k - 1} \leq 2^{-k} + 2^{3-k} \leq 2^{4-k} \rightsquigarrow 0$$