

$$\bigvee_{\text{abel split}}^{\text{cpt Cartan}} \frac{1_{\underline{\mathbb{H}}}^{\mathbb{R}}}{\square_{\underline{\mathbb{H}}}^{\mathbb{R}}} \sqsupseteq \frac{1_{\underline{\mathbb{H}}_{\mathbb{T}}}^{\mathbb{R}}}{\square_{\underline{\mathbb{H}}_{\mathbb{T}}}^{\mathbb{R}}} \max_{\square_{\underline{\mathbb{H}}_{\mathbb{T}}}^{\mathbb{R}}} \underline{\mathbb{H}}_{\mathbb{T}}^{\mathbb{R}}$$

$$\underline{\mathbb{H}}^{\mathbb{R}} \sqsupseteq \square_{\underline{\mathbb{H}}}^{\mathbb{R}} = \square_{\underline{\mathbb{H}}_{\mathbb{T}}}^{\mathbb{R}} \sqsubset \underline{\mathbb{H}}^{\mathbb{T}} \text{ cpt Cartan}$$

$$\underline{\mathbb{H}}^{\mathbb{C}} \max_{\square_{\underline{\mathbb{H}}}^{\mathbb{C}}} \underline{\mathbb{H}}^{\mathbb{C}} = \text{cen } \underline{\mathbb{H}}^{\mathbb{C}} \xrightarrow{\exp} \underline{\mathbb{H}}^{\mathbb{C}} = \exp \underline{\mathbb{H}}^{\mathbb{C}} = \text{cen } \underline{\mathbb{H}}^{\mathbb{C}} \max_{\substack{\text{abel split prim}}} \underline{\mathbb{H}}^{\mathbb{C}}$$

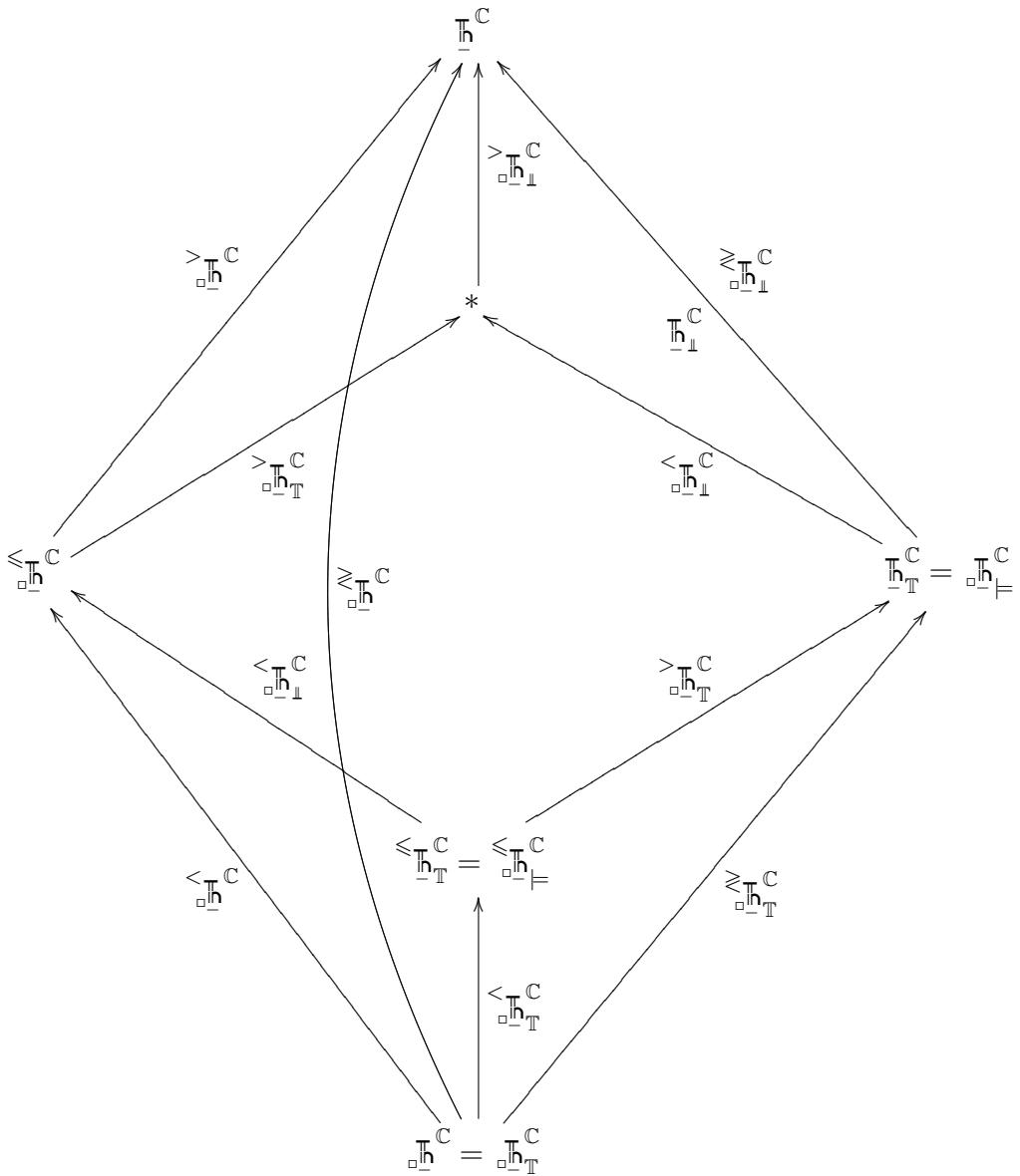
$$\underline{\mathbb{H}}^{\mathbb{C}} \text{ co-root} \left\{ \begin{array}{l} \underline{\mathbb{H}}^{\mathbb{C}} \\ \frac{1_{\underline{\mathbb{H}}}^{\mathbb{C}}}{-\underline{\mathbb{H}}^{\mathbb{C}} \ni 1} \end{array} \right. = \left\{ \begin{array}{l} <_{\underline{\mathbb{H}}^{\mathbb{C}}} = \frac{-1_{\underline{\mathbb{H}}}^{\mathbb{C}}}{\frac{\#_{\underline{\mathbb{H}}^{\mathbb{C}}} \ni 1}{1}} \\ >_{\underline{\mathbb{H}}^{\mathbb{C}}} = \frac{1_{\underline{\mathbb{H}}}^{\mathbb{C}}}{\frac{\#_{\underline{\mathbb{H}}^{\mathbb{C}}} \ni 1}{1}} \end{array} \right.$$

$$1_{\underline{\mathbb{H}}}^{\mathbb{C}} = \underline{\mathbb{H}}^{\mathbb{C}} \blacktriangleleft_{\underline{\mathbb{H}}^{\mathbb{C}}} = \frac{b \in \underline{\mathbb{H}}^{\mathbb{C}}}{\bigwedge_{b \in \underline{\mathbb{H}}^{\mathbb{C}}} b * b = \underline{1} \underline{1} b}$$

$$\underline{\mathbb{H}}^{\mathbb{C}} \text{ co-root} \left\{ \begin{array}{l} \underline{\mathbb{H}}_{\mathbb{T}}^{\mathbb{C}} \\ \frac{1_{\underline{\mathbb{H}}}^{\mathbb{C}}}{-\underline{\mathbb{H}}^{\mathbb{C}} \ni 1} \end{array} \right. = \left\{ \begin{array}{l} <_{\underline{\mathbb{H}}_{\mathbb{T}}^{\mathbb{C}}} = \frac{-1_{\underline{\mathbb{H}}}^{\mathbb{C}}}{\frac{\#_{\underline{\mathbb{H}}_{\mathbb{T}}^{\mathbb{C}}} \ni 1}{1}} \\ >_{\underline{\mathbb{H}}_{\mathbb{T}}^{\mathbb{C}}} = \frac{1_{\underline{\mathbb{H}}}^{\mathbb{C}}}{\frac{\#_{\underline{\mathbb{H}}_{\mathbb{T}}^{\mathbb{C}}} \ni 1}{1}} \end{array} \right.$$

$$\underline{\mathbb{H}}^{\mathbb{C}} \blacktriangleleft_{\underline{\mathbb{H}}^{\mathbb{C}}} = \underline{\mathbb{H}}^{\mathbb{C}} = \underline{\mathbb{H}}^{\mathbb{C}}$$

$$\underline{\mathbb{H}}^{\mathbb{R}} = \underline{\mathbb{H}}_{\mathbb{T}}^{\mathbb{R}} = \frac{\bigcirc_{\underline{\mathbb{H}}^{\mathbb{R}}}^{\mathbb{R}}}{\bigcirc_{\underline{\mathbb{H}}^{\mathbb{R}}}^{\mathbb{R}}} = \frac{\underline{\mathbb{H}}^{\mathbb{R}}}{\bigcirc_{\underline{\mathbb{H}}^{\mathbb{R}}}^{\mathbb{R}}} \times \bigcirc_{\underline{\mathbb{H}}^{\mathbb{R}}}^{\mathbb{R}} \max_{\square_{\underline{\mathbb{H}}^{\mathbb{R}}}^{\mathbb{R}}} \underline{\mathbb{H}}_{\mathbb{T}}^{\mathbb{R}} \text{ cpt}$$



$$\hbar^C \cup \left\{ \begin{array}{l} \leq \hbar^C \\ > \hbar^C \end{array} \right. \text{ minibolic } \left\{ \begin{array}{l} \leq \hbar^C \\ = \hbar^C \\ \geq \hbar^C \end{array} \right.$$

$$\underbrace{\hbar^C}_{N \text{ abel}} = \underbrace{s \hbar^R}_{N \text{ abel}} \leq \times \underbrace{s \hbar^R}_{N \text{ abel}} \leq \xrightarrow{\exp} \underbrace{\hbar^C}_{N \text{ abel prim}} = \underbrace{\hbar^C}_{N \text{ abel}} \times \underbrace{\hbar^C}_{N \text{ abel prim}}$$

$$\hbar^C \max \underbrace{s \hbar^R}_{2^N \text{ abel}} \leq = \underbrace{s \hbar^R}_{N \text{ abel}} < \times \xrightarrow{\exp} \underbrace{\hbar^R}_{2^N \text{ abel prim}} \underbrace{\hbar^C}_{N \text{ abel prim}} = \underbrace{\hbar^C}_{N \text{ abel}} \times \underbrace{\hbar^C}_{N \text{ abel prim}} \max \hbar^C$$

$$\begin{aligned}\mathbb{H}^{\text{C}} \setminus \mathbb{H}^{\text{C}} &= \underbrace{\mathbb{H}^{\text{R}} \setminus \mathbb{H}^{\text{T}}}_{\text{cpt}} \supset \underbrace{\mathbb{H}^{\text{R}} \setminus \mathbb{H}^{\text{R}}}_{\text{non-cpt}} \rightarrow 1 \\ \underline{\mathbb{H}^{\text{K}} \setminus \mathbb{H}^{\text{K}}} &= \underline{\mathbb{H}^{\text{C}}} \\ \underline{\mathbb{H}^{\text{C}} \cap \mathbb{H}^{\text{R}}} &= \underline{\mathbb{H}^{\text{R}}}\end{aligned}$$