

$$\mathcal{P}_{-p} = \frac{x = \dot{x} \in \mathcal{U}|\mathbb{1}}{px + xp = x}$$

$$\mathcal{P}_{-p} \ni x \Rightarrow \begin{cases} pxp = 0 \\ p \times \underline{p \times x} = x \end{cases}$$

$$px + xp = x \Rightarrow \begin{cases} pxp + xpp = xp \Rightarrow pxp = 0 \\ p \times \underline{p \times x} = x = p \underline{px - xp} - \underline{px - xpp} = px - pxp - pxp + xp = px + xp = x \end{cases}$$

$$\mathcal{U}|\mathbb{1} \xrightarrow{ip \times} \mathcal{P}_{-p}$$

$$y = \dot{y} \Rightarrow ip \times y \in \mathcal{P}_{-p}$$

$$\widehat{ip \times y}^* = -iy \times p = ip \times y$$

$$\underline{p \times y}p + p \underline{p \times y} = \underline{py - ypp} + p \underline{py - ypp} = py - ypp + ppy - pyp = py - ypp \in i \mathcal{P}_{-p}$$

$$\begin{array}{ccc} \mathcal{P}_{-p} & \xrightarrow{ip \times} & \mathcal{P}_{-p} & \xrightarrow{ip \times} & \mathcal{P}_{-p} \\ & \searrow & & \nearrow & \\ & & -i & & \end{array}$$

$$ip \times \underline{ip \times x} = -p \times \underline{p \times x} = -x$$

$$x \in \mathcal{P}_{-p}$$

$$\underline{\partial_x \mathfrak{b}}_p = \underline{q \times \widehat{p \times x} \times \mathfrak{b}}_q$$

$$\underline{\partial_{ip \times x} \mathfrak{b}}_p = \underline{i \widehat{q \times x} \times \mathfrak{b}}_q$$

$$i_K = \frac{1_K \mid 0}{0 \mid 0_{K^1}}$$

$$\mathcal{P}_{-K} = \begin{array}{c} K \blacktriangleleft H \\ \cup | K \end{array} \times \frac{0 \mid K \blacktriangleleft K^1}{K \blacktriangleleft K^1 \mid 0}$$

$$\mathcal{T} = \begin{array}{c} K \\ \swarrow \quad \searrow \\ H \quad \times \quad K \\ \cup_{|K} \end{array} = \begin{cases} p: \mathbb{1} \in \mathcal{P} \times \mathbb{1} \\ p \mathbb{1} = \mathbb{1} \end{cases}$$

$$\mathcal{T} \leftarrow \mathbb{U} | \mathbb{1} \times \mathcal{T}$$

$$g \times \underline{p: \mathbb{1}} = (gp \overset{*}{g}: g \mathbb{1})$$

$$p \mathbb{1} = \mathbb{1} \Rightarrow \underline{gp \overset{*}{g}: g \mathbb{1}} = \underline{gp \overset{*}{g} g \mathbb{1}} = \underline{gp \mathbb{1}} = \underline{gp \mathbb{1}} = g \mathbb{1} \Rightarrow (gp \overset{*}{g}: g \mathbb{1}) \in \mathcal{T}$$