$$c \in \Pi \subset X$$

$$\underline{\Pi}_c = X_c^{1/2}$$

$$v \in X_c^{1/2} \Longrightarrow \overset{*}{c}\, v - \overset{*}{v}\, c \in \operatorname{aut} X = \mathfrak{k}_{\mathbb{R}} \Longrightarrow \mathfrak{e}^{\overset{*}{c}v - \overset{*}{v}c} \in \operatorname{Aut} X = K_{\mathbb{R}}$$

$${}^{2c-e}\mathfrak{e}^{\overset{*}{c}v - \overset{*}{v}c} = \underbrace{2c-e+v}\, \underbrace{e+v^2}_{-\,1/2} = \underbrace{2c-e+v}\, P_{e+v^2}^{-1/4} \in {}^j_j K_{\mathbb{R}} \text{ symm}$$

$$\text{symm } \ell_v = P_{\underbrace{2c-e+v}\,\underbrace{e+v^2}_{-\,1/2}} = P_{2c-e+v}\, P_{e+v^2}^{-\,1/2} \in \operatorname{Aut} X = K_{\mathbb{R}}$$

$$\text{LHS} = P_{\underbrace{2c-e+v}\, P_{e+v^2}^{-1/4}} = P_{(e+v^2)^{-1/4}}\, P_{2c-e+v}\, P_{(e+v^2)^{-1/4}} = P_{e+v^2}^{-1/4}\, P_{2c-e+v}\, P_{e+v^2}^{-1/4} = \text{RHS}$$

$${}_u\lrcorner = {}^c\ell_v = c\, P_{2c-e+v}\, P_{e+v^2}^{-\,1/2} = \underbrace{c+v+vcv}\, \overbrace{e+v^2}^{-1}$$

$$s_v = {}^{2c-e}\ell_v = \underbrace{2c-e}\, P_{2c-e+v}\, P_{e+v^2}^{-\,1/2} = \underbrace{2c-e+2v+2vcv-v^2}\, \overbrace{e+v^2}^{-1} = 2\underbrace{c+v+vcv}\, \overbrace{e+v^2}^{-1} - e$$

$$\begin{cases} u \in X_c^1 \\ v \in X_c^{1/2} \\ w \in X_c^0 \end{cases} \Longrightarrow \begin{cases} {}^{2c-e+u+w}\ell_v \in {}^j_j\circlearrowright_{\mathbb{R}} \\ s_v = {}^{2c-e}\ell_v \in {}^j_j K_{\mathbb{R}} \end{cases}$$

$${}_u\lrcorner = \frac{e+s_v}{2} \in X_v^1$$

$${}_w\lrcorner = \frac{e-s_v}{2} = e - {}_u\lrcorner \in X_v^0$$

$$X_c^1 \ni u \Longrightarrow u\, P_{c+v} \in X_v^1 = X_c^1\, P_{c+v}$$

$$X_c^0 \ni w \Longrightarrow w\, P_{v+c-e} \in X_v^0 = X_c^0\, P_{v+c-e}$$

$$x = {}^{2c-e+u+w}\ell_v = s_v + \underbrace{u+w}\,\ell_v$$

$$\dot u \;\; {}^{x}\overbrace{\partial_u\varphi} = \dot u\,\ell_v\,{}^{x}\underline{\varphi}$$

$$\dot w \;\; {}^{x}\overbrace{\partial_w\varphi} = \dot w\,\ell_v\,{}^{x}\underline{\varphi}$$

$$\text{basis}\ \frac{{}_{1}\llcorner}{\frac{{}_{i}\llcorner}{{}_{p}\llcorner}}\ \text{von}\ X_v^1 \times X_v^0$$

$$\dot u : \dot w \in U \times W \xrightarrow[\text{lin}]{\ell_v = \llcorner} X \ni \underbrace{\dot u + \dot w}\,\ell_v$$

$$\frac{\partial\varphi}{\partial \urcorner^{i}} d\,{}_{i}\llcorner = \begin{bmatrix}\partial_u\varphi & \partial_w\varphi\end{bmatrix} d\,\ell_v$$

$$\begin{bmatrix}\dot u\partial_u\varphi & \dot w\partial_w\varphi\end{bmatrix} d\,\ell_v = \begin{bmatrix}\dot u\ell_v{}^{x}\underline{\varphi} & \dot w\ell_v{}^{x}\underline{\varphi}\end{bmatrix} d\,\ell_v$$