

$$\mathbb{L} \mathfrak{K} \downarrow = \underbrace{\mathbb{L} \mathcal{D}_z^{-1}} \mathfrak{K} \downarrow$$

$${}^{zg} \mathcal{D}_{wg} = w \underline{\mathfrak{g}}^* {}^z \mathcal{D}_w {}^z \underline{\mathfrak{g}}$$

$$\underbrace{\mathbb{L} \mathcal{D}_z^{-1}} \mathfrak{K} \downarrow = \mathbb{L} \mathfrak{K} \downarrow = \underbrace{\mathbb{L} {}^z \underline{\mathfrak{g}} \mathfrak{K} \downarrow} {}^z \underline{\mathfrak{g}} = \underbrace{\mathbb{L} {}^z \underline{\mathfrak{g}} {}^{zg} \mathcal{D}_{zg}^{-1}} \mathfrak{K} \downarrow {}^z \underline{\mathfrak{g}} = \underbrace{\mathbb{L} {}^z \underline{\mathfrak{g}} {}^{zg} \mathcal{D}_{zg}^{-1}} {}^z \underline{\mathfrak{g}}^* \mathfrak{K} \downarrow$$

$$\Rightarrow {}^z \mathcal{D}_z^{-1} = {}^z \underline{\mathfrak{g}} {}^{zg} \mathcal{D}_{zg}^{-1} {}^z \underline{\mathfrak{g}}^* \Rightarrow {}^z \underline{\mathfrak{g}}^{*-1} {}^{zg} \mathcal{D}_{zg} {}^z \underline{\mathfrak{g}}^{-1} = {}^z \mathcal{D}_z \Rightarrow {}^{zg} \mathcal{D}_{zg} = {}^z \underline{\mathfrak{g}}^* {}^z \mathcal{D}_z {}^z \underline{\mathfrak{g}} \xRightarrow{\text{pol}} {}^{zg} \mathcal{D}_{wg} = w \underline{\mathfrak{g}}^* {}^z \mathcal{D}_w {}^z \underline{\mathfrak{g}}$$

$${}^0 \underline{\mathfrak{g}}_z = {}^z \mathcal{D}_z^{1/2}$$

$${}^z \mathcal{D}_z = {}^{0\mathfrak{g}_z} \mathcal{D}_{0\mathfrak{g}_z} = {}^0 \underline{\mathfrak{g}}_z^* \underbrace{{}^0 \mathcal{D}_0}_{=i} {}^0 \underline{\mathfrak{g}}_z = {}^0 \underline{\mathfrak{g}}_z^* {}^0 \underline{\mathfrak{g}}_z \stackrel{\text{self adj}}{=} {}^0 \underline{\mathfrak{g}}_z^2$$

$$\bigwedge_{\gamma}^{G^c} \zeta_{\gamma} \mathcal{D}_{-w \hat{\gamma}^{-1}} = w \underline{\hat{\gamma}^*}^{-1} \zeta_{\mathcal{D}_{-w}} \zeta_{\gamma}$$

$$\bigwedge_{\gamma}^U \zeta_{\gamma} \mathcal{D}_{-w \gamma} = w \underline{\gamma}^* \zeta_{\mathcal{D}_{-w}} \zeta_{\gamma}$$

$$G \ni g \Rightarrow \hat{g}^*{}^{-1} = \mathfrak{s}_0 g \mathfrak{s}_0$$

$$\Rightarrow {}^{zg} \mathcal{D}_{-w \hat{g}^*{}^{-1}} = {}^{zg} \mathcal{D}_{-w \mathfrak{s}_0 g \mathfrak{s}_0} = {}^{zg} \mathcal{D}_{-w g} = {}^{-w \underline{\mathfrak{g}}^*} {}^z \mathcal{D}_{-w} {}^z \underline{\mathfrak{g}} = w \underline{\mathfrak{s}_0 g \mathfrak{s}_0}^* {}^z \mathcal{D}_{-w} {}^z \underline{\mathfrak{g}} = w \underline{\hat{g}^*}^{-1} {}^z \mathcal{D}_{-w} {}^z \underline{\mathfrak{g}}$$

$$U \ni \gamma \Rightarrow \hat{\gamma}^*{}^{-1} = \gamma$$

$${}^z\mathcal{D}_w^- = {}^z\mathcal{D}_w^{-1} \in K^{\mathbb{C}}$$

$${}^0\underline{\mathfrak{g}}_z = {}^z\mathcal{D}_z^{1/2}$$

$${}^z\mathcal{D}_z^- = {}^0\underline{\mathfrak{g}}_z^{-1} {}^0\underline{\mathfrak{g}}_z^* = {}^z\mathcal{D}_z^{-1}$$