

$\mathfrak{h}$ space-time

$$\mathbb{I} \begin{array}{c} \diagdown \\ \infty \end{array} \mathfrak{h} = \left\{ \mathbb{I} \xrightarrow[\text{diff}]{\mathfrak{l}} \mathfrak{h} \right\}$$

$$\underbrace{\mathbb{I} \begin{array}{c} \diagdown \\ \infty \end{array} \mathfrak{h}}_{\mathfrak{l}} = \mathbb{I} \begin{array}{c} \diagdown \\ \infty \end{array} \mathfrak{h} = \left\{ \mathbb{I} \xrightarrow[\text{diff}]{\mathfrak{v}} \mathfrak{h} \right\}$$

$$\mathfrak{h}:\mathfrak{v} \in \mathfrak{h} \times \mathfrak{h} \xrightarrow[\text{Lagr-Dichte}]{\mathcal{L}} \mathbb{R} \ni {}^{\mathfrak{h}:\mathfrak{v}}\mathcal{L}$$

$${}^{\mathfrak{h}:\mathfrak{v}}\mathcal{L} = \overbrace{\mathfrak{v} \mathfrak{X} \mathfrak{v}^{\mathfrak{h}} \mathcal{A}}^{1/2} = \overbrace{\mathfrak{v}^{\mu} \mathfrak{v}^{\nu \mathfrak{h}} \mathcal{A}_{\mu \nu}}^{1/2}$$

$$\underbrace{\mathfrak{h}:0} {}^{\mathfrak{h}:\mathfrak{v}}\mathcal{L} = \frac{\overbrace{\mathfrak{v} \mathfrak{X} \mathfrak{v}^{\mathfrak{h}} \mathcal{A}}^{-1/2}}{2} \underbrace{\mathfrak{v} \mathfrak{X} \mathfrak{v}^{\mathfrak{h}} \mathcal{A}}_{\mathfrak{h} \mathfrak{v}}$$

$$\underbrace{0:\mathfrak{v}}_{\mathfrak{v}} {}^{\mathfrak{h}:\mathfrak{v}}\mathcal{L} = \frac{\overbrace{\mathfrak{v} \mathfrak{X} \mathfrak{v}^{\mathfrak{h}} \mathcal{A}}^{-1/2}}{2} 2 \underbrace{\mathfrak{v} \mathfrak{X} \mathfrak{v}^{\mathfrak{h}} \mathcal{A}}_{\mathfrak{v} \mathfrak{h}} = \overbrace{\mathfrak{v} \mathfrak{X} \mathfrak{v}^{\mathfrak{h}} \mathcal{A}}^{-1/2} \underbrace{\mathfrak{v} \mathfrak{X} \mathfrak{v}^{\mathfrak{h}} \mathcal{A}}_{\mathfrak{v} \mathfrak{h}}$$

$${}^{\mathfrak{h}:\mathfrak{v}}\overbrace{\frac{\partial \mathcal{L}}{\partial \mathfrak{h}^{\lambda}}} = \frac{1}{2} \overbrace{\mathfrak{v}^{\mu} \mathfrak{v}^{\nu \mathfrak{h}} \mathcal{A}_{\mu \nu}}^{-1/2} \mathfrak{v}^{\mu} \mathfrak{v}^{\nu \mathfrak{h}} \overbrace{\frac{\partial \mathcal{A}}{\partial \mathfrak{h}^{\lambda}}}_{\mu \nu}$$

$${}^{\mathfrak{h}:\mathfrak{v}}\overbrace{\frac{\partial \mathcal{L}}{\partial \mathfrak{v}^{\lambda}}} = \frac{1}{2} \overbrace{\mathfrak{v}^{\mu} \mathfrak{v}^{\nu \mathfrak{h}} \mathcal{A}_{\mu \nu}}^{-1/2} \overbrace{\frac{\partial}{\partial \mathfrak{v}^{\lambda}} \mathfrak{v}^{\mu} \mathfrak{v}^{\nu \mathfrak{h}} \mathcal{A}_{\mu \nu}} = \frac{1}{2} \overbrace{\mathfrak{v}^{\mu} \mathfrak{v}^{\nu \mathfrak{h}} \mathcal{A}_{\mu \nu}}^{-1/2} \underbrace{\delta^{\mu}_{\lambda} \mathfrak{v}^{\nu} + \mathfrak{v}^{\mu}_{\lambda} \delta^{\nu}_{\mathfrak{h}} \mathcal{A}_{\mu \nu}} = \frac{1}{2} \overbrace{\mathfrak{v}^{\mu} \mathfrak{v}^{\nu \mathfrak{h}} \mathcal{A}_{\mu \nu}}^{-1/2} \underbrace{\mathfrak{v}^{\nu \mathfrak{h}} \mathcal{A}_{\lambda \nu} + \mathfrak{v}^{\mu \mathfrak{h}} \mathcal{A}_{\mu \lambda}} = \overbrace{\mathfrak{v}^{\mu} \mathfrak{v}^{\nu \mathfrak{h}} \mathcal{A}_{\mu \nu}}^{-1/2} \mathfrak{v}^{\varkappa \mathfrak{h}} \mathcal{A}_{\lambda \varkappa}$$