$$\overset{\text{group}}{\underset{\text{inv}}{=}} \det$$

$$\overset{\text{group}}{\underset{\text{inv}}{=}} \det$$

$$0 \overset{\text{Lie alg}}{\underset{\text{inv}}{=}}$$

$$= \partial_t \, t$$

$$= \partial_t \Longrightarrow \partial_t \det = \operatorname{tr} \partial_t = \operatorname{tr} =$$

$$0 = \partial_t = \partial_t \det = \partial_t \det + \partial_t$$

$$= \text{RHS}$$

$$x^\nu : \in \mathbb{R}^d \times \mathbb{R} \times {}_d\mathbb{R} \xrightarrow[\text{el current}]{} \mathbb{R} \ni$$

gauge symmetries

$$g \cdot \varphi$$