$$\text{dof } \wr^{\mu} : \wr^{\mu} \in \underset{\sim}{\mathbb{R}}^{d} \times \mathbb{R}^{d}$$

$$\wr^{\mu} : \wr^{\mu} \in \underset{\sim}{\mathbb{R}}^{d} \times \mathbb{R}^{d} \xrightarrow[\text{Lagrangian}]{\mathcal{L}} \mathbb{R} \ni {}^{t}_{\wr}\mathcal{L}_{\wr}$$

$${}^{t}_{\wr}\mathcal{L}^{g:A}_{\wr} = {}^{\wr}_{\mu\nu}g \, \wr^{\mu} \, \wr^{\nu} + q_{\mu}A \, \wr^{\mu}$$

$$\boxed{x\colon \begin{matrix} e \\ X^{\mu} \end{matrix} : \begin{matrix} {}_{0}e \\ {}_{0}X^{\mu} \end{matrix}} = \begin{cases} e^{-1}{}_{0}X^{\mu X}g_{\mu\nu 0}X^{\nu} - em^{2} & \\ e^{-1}{}_{0}X^{\mu X}g_{\mu\nu 0}X^{\nu} & \text{m=0} \end{cases}$$

symmetries

$$\text{lical} \begin{cases} \overbrace{\flat \ltimes X}^{\nu} & = \flat\dot{X}^{\nu} \\ \flat \ltimes e & = \dot{\overbrace{\flat e}} \end{cases}$$

motion

$$\begin{cases} \ddot{X}^{\mu} & = 0 \\ \dot{X}^{\mu}g_{\mu\nu}\dot{X}^{\nu} + e^{2}m^{2} & = 0 \end{cases}$$