

$$\begin{aligned} \boxed{\begin{matrix} e \\ X^\mu : \\ {}_0X^\mu \end{matrix}}^x &= \begin{cases} e^{-1}{}_0X^\mu X g_{\mu\nu 0} X^\nu - em^2 \\ e^{-1}{}_0X^\mu X g_{\mu\nu 0} X^\nu \end{cases} \quad \text{m=0} \\ \boxed{\mathfrak{z} \mid \frac{e}{X^\mu}}^x &= \frac{{}^x\mathfrak{z}e}{\overline{X^\mu}} \end{aligned}$$

$$\boxed{\mathfrak{z} \mid \frac{e}{X^\mu} : \frac{{}_0e}{{}_0X^\mu}}^x = {}^x\mathfrak{z} \left(\frac{{}^x\mathfrak{z}e}{\underline{0}} + \frac{{}^x\mathfrak{z} \mid 0}{\underline{0} \mid 1} \frac{{}_0e}{{}_0X^\mu} \right) = {}^x\mathfrak{z} \frac{{}^x\mathfrak{z}e + {}^x\mathfrak{z}_0e}{{}_0X^\mu} = \frac{{}^x\mathfrak{z} {}^x\mathfrak{z}e + {}^x\mathfrak{z}_0^2e}{{}^x\mathfrak{z}_0X^\mu}$$

$$\boxed{\boxed{\mathfrak{z} \mid \frac{e}{X^\mu}}^x : \boxed{\mathfrak{z} \mid \frac{e}{X^\mu} : \frac{{}_0e}{{}_0X^\mu}}^x}_0^x = \boxed{\frac{{}^x\mathfrak{z}e}{X^\mu} : \frac{{}^x\mathfrak{z} {}^x\mathfrak{z}e + {}^x\mathfrak{z}_0^2e}{{}^x\mathfrak{z}_0X^\mu}}^x$$

$$= \overbrace{{}^x\mathfrak{z}e}^{-1} {}^x\mathfrak{z}_0X^\mu \eta_{\mu\nu} {}^x\mathfrak{z}_0X^\nu = {}^x\mathfrak{z}_0^{-1} {}_0X^\mu \eta_{\mu\nu} {}_0X^\nu = {}^x\mathfrak{z} \boxed{\begin{matrix} e \\ X^\mu : \\ {}_0X^\mu \end{matrix}}$$