

$$\begin{split} q^1 &= \varphi, \ q^2 = s \\ \xi &= \xi(s), \ \rho = \rho(s), \ \frac{\partial \rho}{\partial \varphi} = 0 \\ \boldsymbol{e}_{\xi} &= \mathbf{const}, \ \boldsymbol{e}_{\rho}(\varphi) = \boldsymbol{e}_y \cos \varphi + \boldsymbol{e}_z \sin \varphi \\ \boldsymbol{r}(q^1, q^2) &= \boldsymbol{r}(\varphi, s) = \xi(s) \boldsymbol{e}_{\xi} + \rho(s) \boldsymbol{e}_{\rho}(\varphi) \\ \boldsymbol{r} &= \xi \boldsymbol{e}_{\xi} + \rho \boldsymbol{e}_{\rho} \end{split}$$

$$r(q^1, q^2) = r(\varphi, s) = \xi(s)e_{\xi} + \rho(s)e_{\rho}(\varphi)$$

$$r = \xi e_{\xi} + \rho e_{\rho}$$

$$r = \frac{\partial r}{\partial r} - \frac{\partial e_{\rho}}{\partial r} = c_{\theta} - \frac{\partial e_{\rho}}{\partial r} = si$$

 $r_3 = r^3 = n = e_{\varphi} \times t$

$$\mathbf{r} = \xi \mathbf{e}_{\xi} + \rho \mathbf{e}_{\rho}$$

$$\mathbf{r}_{1} = \partial_{1}\mathbf{r} = \partial_{\varphi}\mathbf{r} = \frac{\partial \mathbf{r}}{\partial \varphi} = \rho \frac{\partial \mathbf{e}_{\rho}}{\partial \varphi} = \rho \mathbf{e}_{\varphi}, \ \mathbf{e}_{\varphi} \equiv \frac{\partial \mathbf{e}_{\rho}}{\partial \varphi} = -\sin \varphi \mathbf{e}_{y} + \cos \varphi \mathbf{e}_{z}$$

$$\mathbf{r}_{2} = \partial_{2}\mathbf{r} = \partial_{s}\mathbf{r} = \frac{\partial \mathbf{r}}{\partial s} = \frac{\partial \xi}{\partial s}\mathbf{e}_{\xi} + \frac{\partial \rho}{\partial s}\mathbf{e}_{\rho} = \mathbf{t}$$

$$egin{aligned} oldsymbol{r}^1 &=
ho^{-1} oldsymbol{e}_{arphi} \ oldsymbol{r}^2 &= oldsymbol{t} \end{aligned}$$

