

★ Sull'iperboloide ad una falda

Sia $S^1: \{ x^2 + y^2 = 1, z = 0 \}$ (circ. unitaria sul piano xy)

$$\underline{\alpha} = \underline{\alpha}(s): \begin{cases} x = \cos s \\ y = \sin s \\ z = 0 \end{cases} \quad s = \varphi = l. \text{ d'arco} \quad \varphi \in (0, 2\pi)$$

$$\underline{\alpha} = (\cos s, \sin s, 0)$$

$$\underline{\alpha}' = (-\sin s, \cos s, 0) = -\sin s \underline{i} + \cos s \underline{j}$$

$$\underline{w}(s) := (\underline{\alpha}' + \underline{R}) = -\sin s \underline{i} + \cos s \underline{j} + \underline{k}$$

consideriamo la superficie rigata $\|\underline{w}\| = \sqrt{2}$

$$\underline{r}(s, t) = \underline{\alpha}(s) + t \underline{w}(s)$$

$$= (\underbrace{\cos s - t \sin s}_x, \underbrace{\sin s + t \cos s}_y, \underbrace{t}_z)$$



$$\begin{aligned} x^2 + y^2 - z^2 &= \cos^2 s - 2t \sin s \cos s + t^2 \sin^2 s \\ &\quad + \sin^2 s + t^2 \cos^2 s + 2t \sin s \cos s + t^2 \\ &\quad - t^2 \\ &= 1 \end{aligned}$$



★ iperboloide iperbolico
di rivoluzione.

$$x^2 + y^2 - z^2 = 1$$