


- parametarski ($t \in [a, b]$)
- implicitno (nereseni oblik)
- eksplīcītu (jasno)

prava: $ax + by + c = 0$, $a, b, c \in \mathbb{R}$ implicitno
 $y = -\frac{a}{b}x - \frac{c}{b}$, $b \neq 0$ eksplīcītu

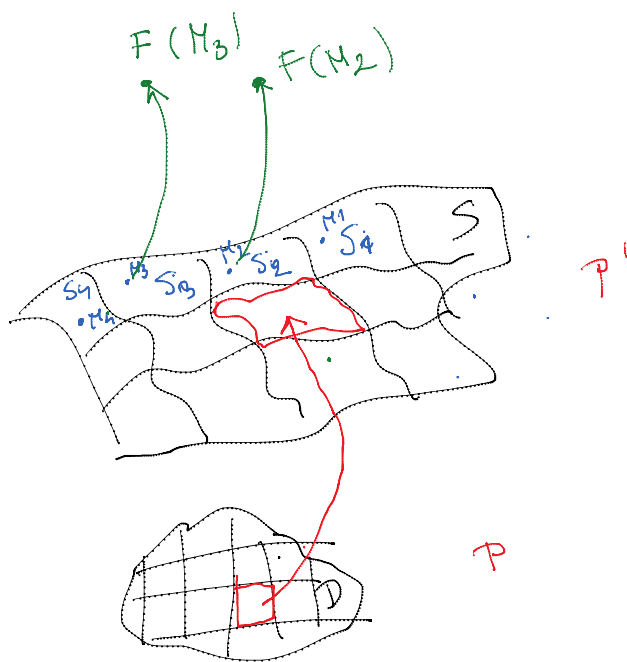
kružnīca: $x^2 + y^2 = 1$
 $x^2 + y^2 - 1 = 0$ implicitu

 $y = \sqrt{1 - x^2}$
 $y = -\sqrt{1 - x^2}$ > eksplīcītu

$x = \cos t$
 $y = \sin t$ > parametarski
 t - mēro x -ose i vektora (x, y)

parabola: $x^2y + 2x^2y^2 + \sin z - 1 = 0$ implicitu

$z = f(x, y)$ eksplīcītu



S zadana eksplicitno $z = z(x, y)$

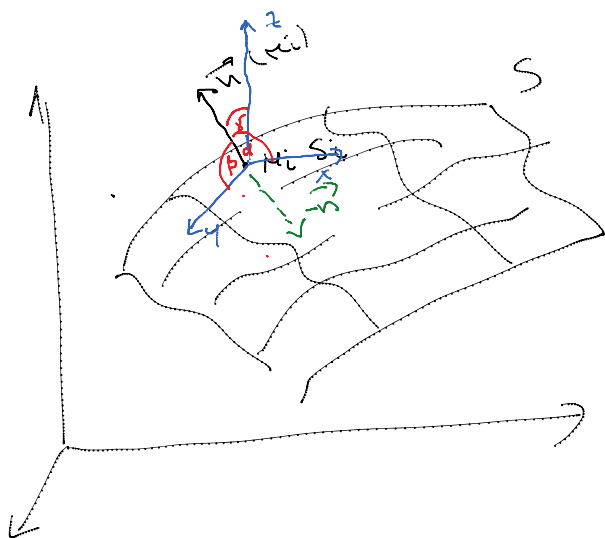
$$S = \{(x, y, z) \mid z = z(x, y), (x, y) \in D \subseteq \mathbb{R}^2\}$$

$$\iint_S F(x, y, z) dS = \iint_D F(x, y, z(x, y)) \cdot \sqrt{1 + p^2 + q^2} dx dy$$

$$p = \frac{\partial z}{\partial x}, \quad q = \frac{\partial z}{\partial y}$$

D - projekcija S na xy ravan

Mebiusova traka (jednostrana)



Friday, December 10, 2021
12:15 PM

Površinski \mathbb{I} vrste

$$\iint_S (P(x,y,z) \cos \alpha + Q(x,y,z) \cos \beta + R(x,y,z) \cos \gamma) dS$$

Upotrebljava se i oznaka:

$$\iint_S P(x,y,z) dydz + Q(x,y,z) dzdx + R(x,y,z) dxdy$$

Ako je S određena sa $z = z(x,y)$ onda

$$\cos \alpha = \pm \frac{p}{\sqrt{1+p^2+q^2}}$$

$$\cos \beta = \pm \frac{q}{\sqrt{1+p^2+q^2}}$$

$$\cos \gamma = \pm \frac{-1}{\sqrt{1+p^2+q^2}}$$

$$\left. \begin{aligned} p &= \frac{\partial z}{\partial x} \\ q &= \frac{\partial z}{\partial y} \end{aligned} \right\} \text{(kao i ranije)}$$

znak + ili - u zavisnosti da li je nprao
ostao ili tup

$$\iint_S R(x,y,z) \cos \gamma dS = \iint_D R(x,y,z(x,y)) dxdy \quad (\text{projekcija na } xy \text{ ravan})$$

$$\iint_S P(x,y,z) \cos \alpha dS = \iint_D P(x,y,z(x,y)) dydz \quad (\text{projekcija na } yz \text{ ravan})$$

$$\iint_S Q(x,y,z) \cos \beta dS = \iint_D Q(x,y,z(x,y)) dzdx \quad (\text{projekcija na } zx \text{ ravan})$$