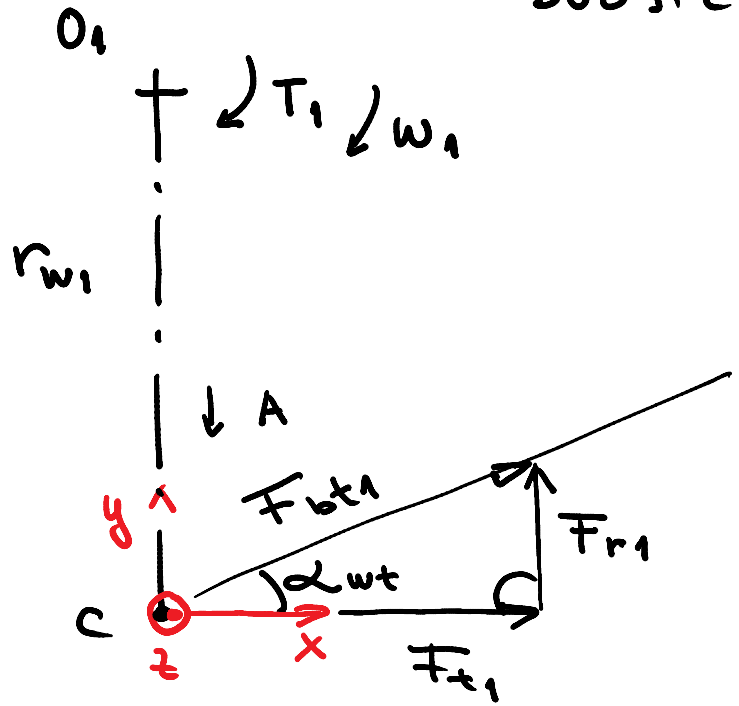
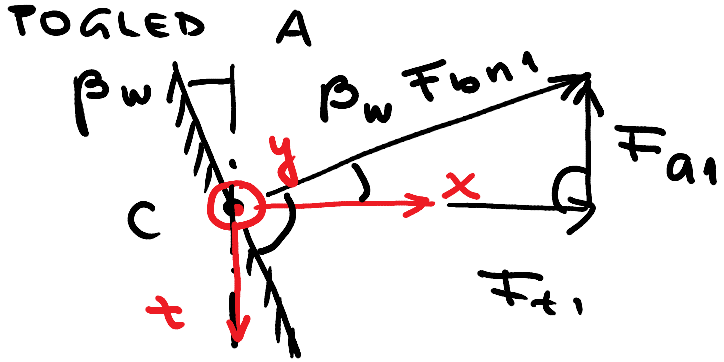
SILE NA VALJASTI ZOBNIŠKI DVOJICI





$$F_{t1} = \frac{T_1\ 2}{d_{w1}} \quad (1)$$

T_1, d_{w1} ✓

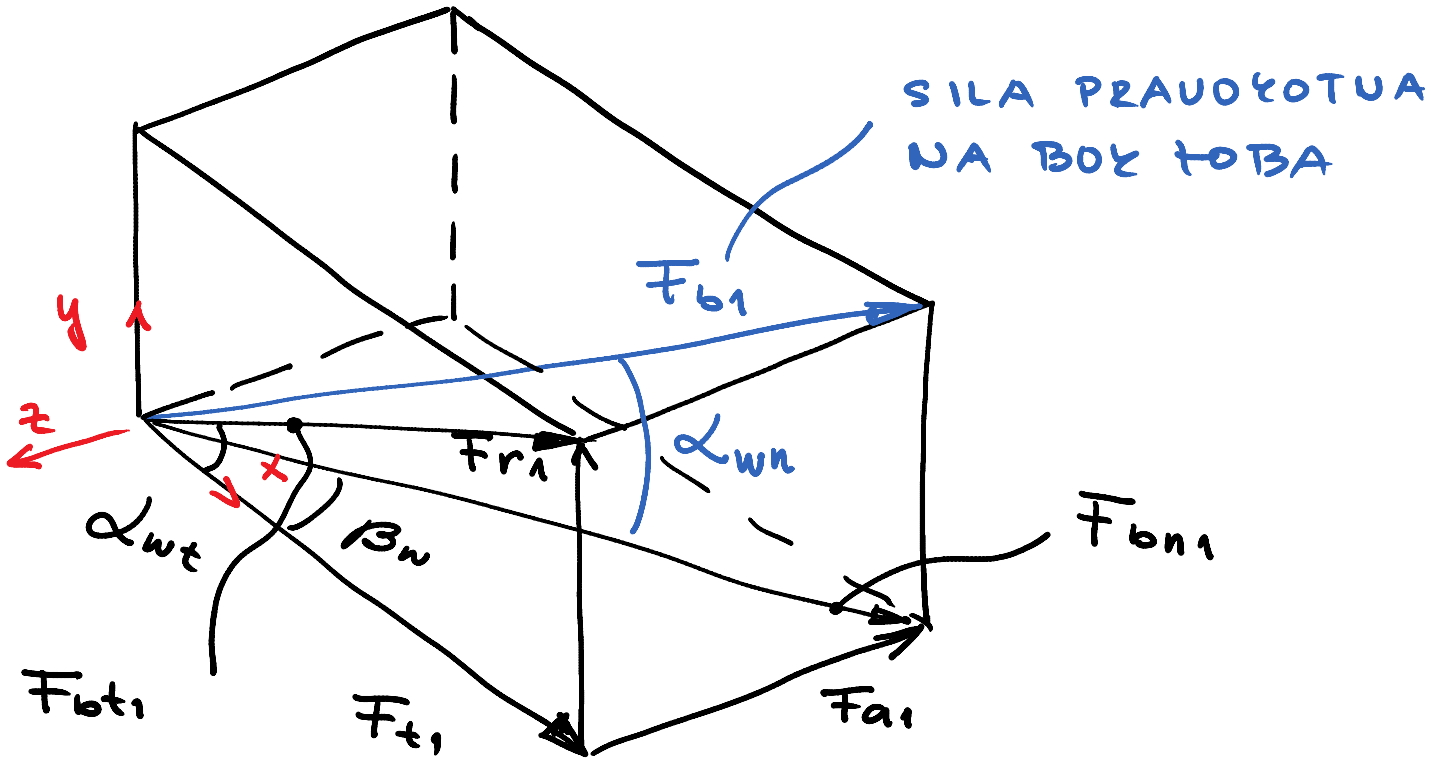
stupna normala

$$tg\,\alpha_{wt} = \frac{F_{r1}}{F_{t1}}$$

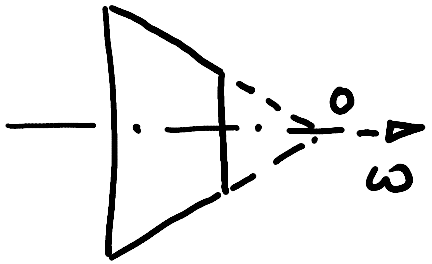
$$F_{r1} = F_{t1} \cdot tg\,\alpha_{wt} \quad (2)$$

$$tg\,\beta_w = \frac{F_{a1}}{F_{t1}}$$

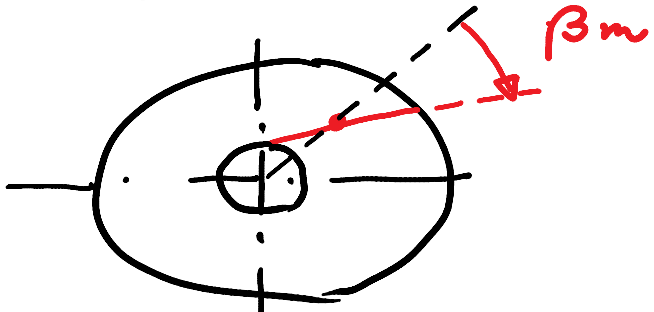
$$F_{a1} = F_{t1} \cdot tg\,\beta_w \quad (3)$$


SILA PRAVOAGOTNA
NA BOK TOBA
F_{b1}
y
z
x
F_{r1}
α_{wn}
α_{wt}
β_w
F_{bn1}
F_{bt1}
F_{t1}
F_{a1}

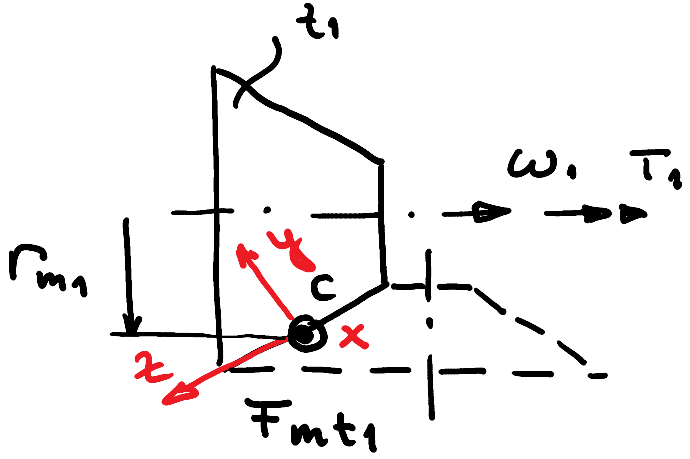
SILE NA STOŽČASTI ZOBNIŠKI DUOJICI



LEVA SMER VRTENJA

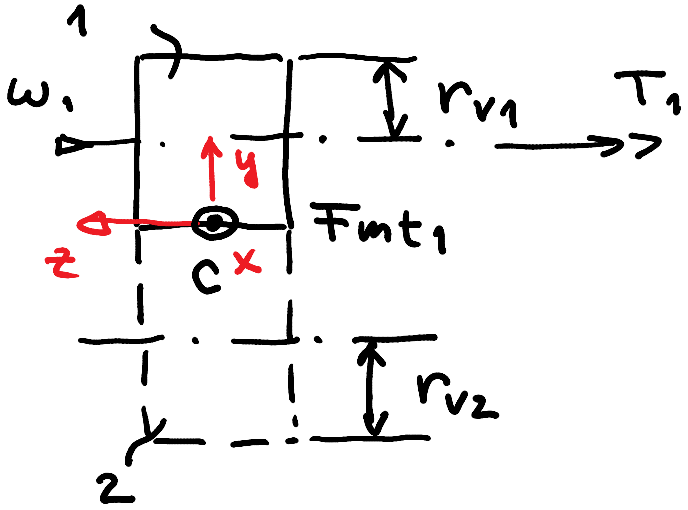


DESNA SMER ZOB



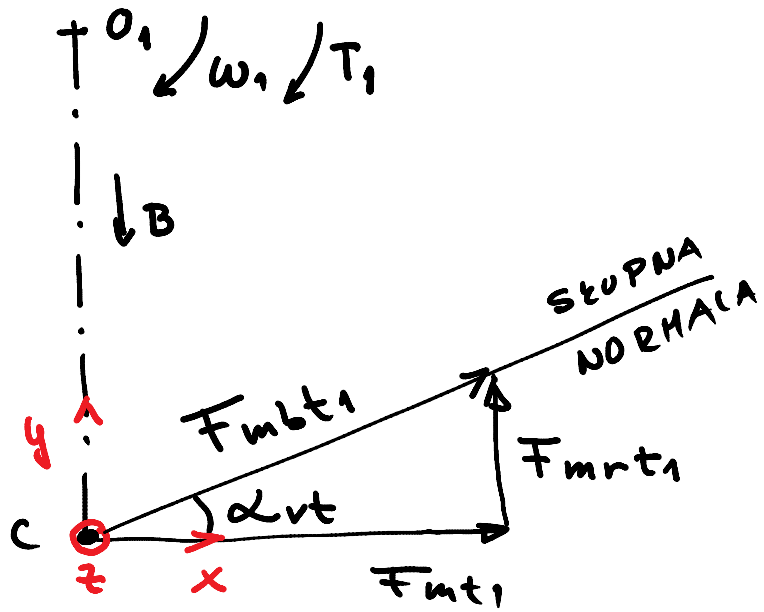
$$F_{mt_1} = \frac{2\,T_1}{d_{m_1}} \quad (1)$$

A →

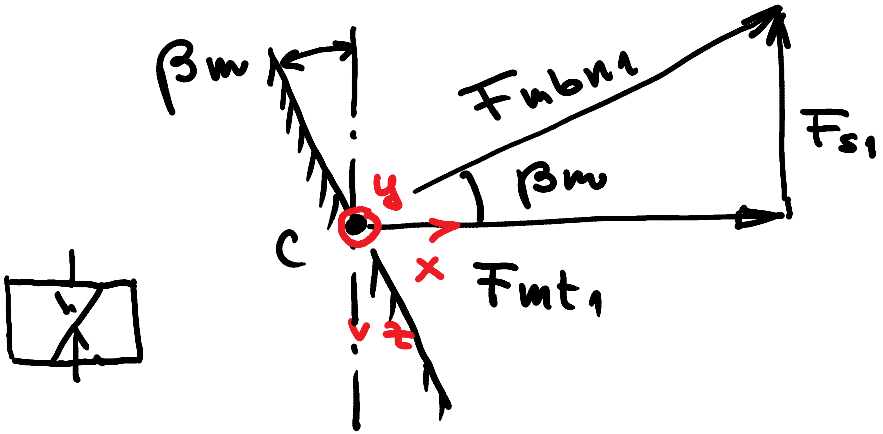


DOPOLNILNA VALJASTA ZOBNIŠKA DUOJICA

POGLED A



POGLED B



$\overline{O_1C} = r_{v1}$

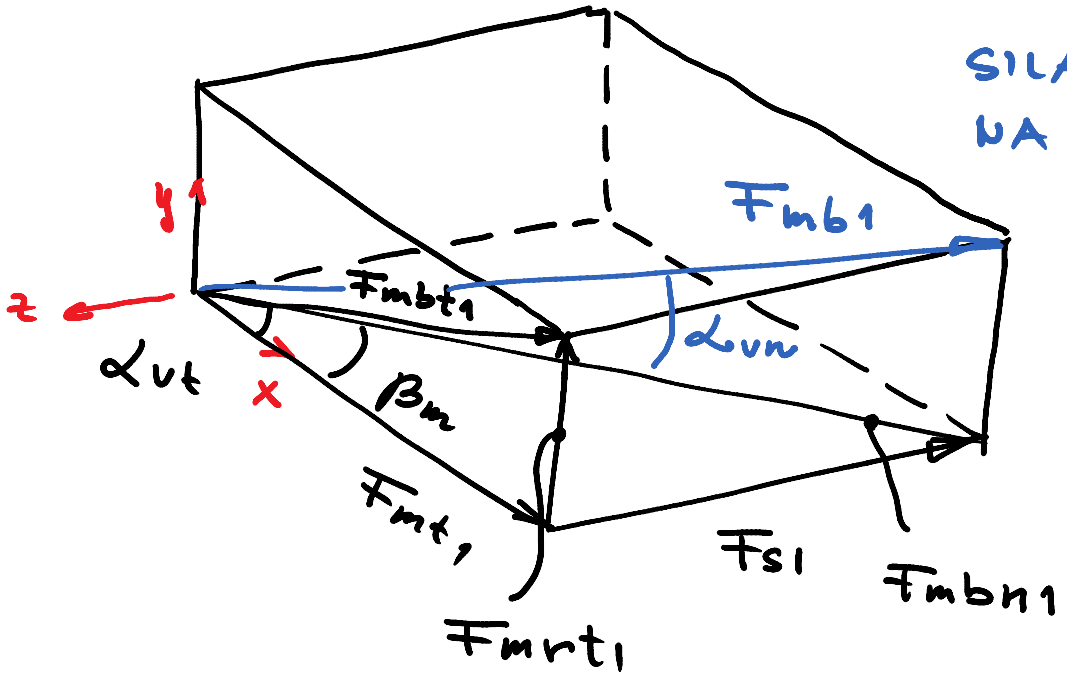
$$tg\,\beta_m = \frac{F_{s1}}{F_{mt1}}$$

$$F_{s1} = F_{mt1} \cdot tg\,\beta_m \quad (2)$$

$$tg\,\alpha_{vt} = \frac{F_{mrt1}}{F_{mt1}}$$

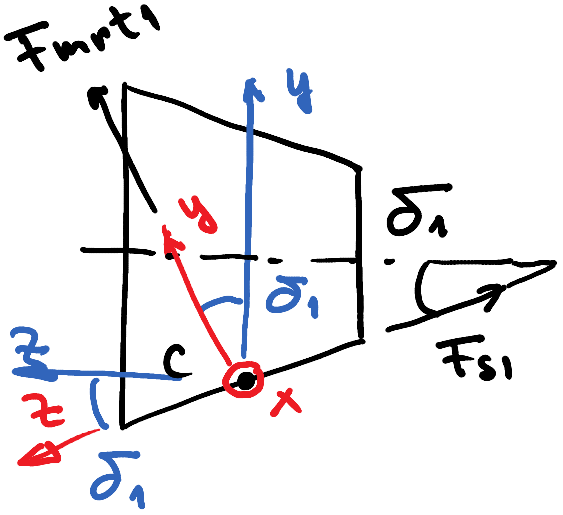
$$F_{mrt1} = F_{mt1}\ tg\,\alpha_{vt} \quad (3)$$

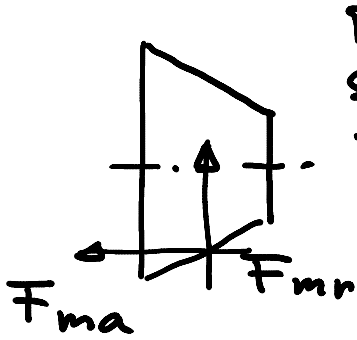
SILA PRAVOLOTNA NA BOK ZOBA



$$tg\alpha_{un} = \frac{F_{mrt1}}{F_{mbn1}} \qquad \cos\beta_m = \frac{F_{mt1}}{F_{mbn1}}$$

$$tg\alpha_{un} = \frac{F_{mrt1}}{F_{mt1}} \qquad \cos\beta_m = tg\alpha_{ut} \cdot \cos\beta_m \quad (4)$$





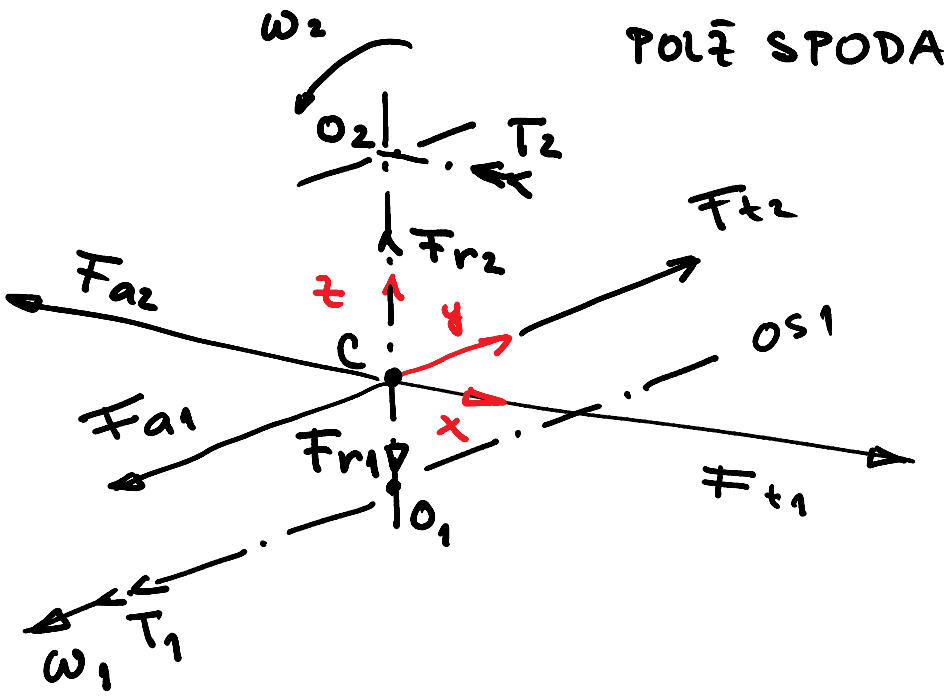
POZITIVNA SMER SIL Fmr IN Fma

$$F_{mr_1} = F_{mrt_1} \cdot \cos\delta_1 + F_{s_1} \sin\delta_1 \qquad (5)$$

$$F_{ma_1} = F_{mrt_1} \cdot \sin\delta_1 - F_{s_1} \cos\delta_1 \qquad (6)$$

SILE NA POLŽASTI DUOJICI

POLŽ SPODAJ IN POLŽ GONILNI



$\overline{O_2C} = r_{m2}$

$\overline{O_1C} = r_{m1}$

$T_1 \checkmark$; $\omega_1 \checkmark$

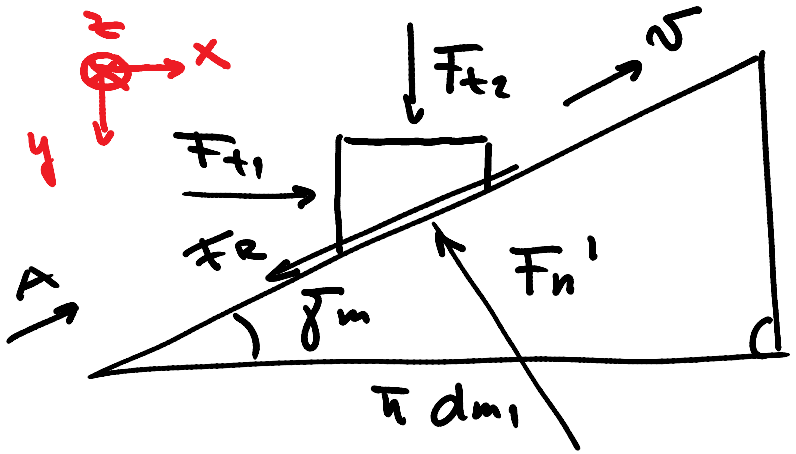
$$F_{t1} = \frac{2T_1}{d_{m1}} \quad (1)$$

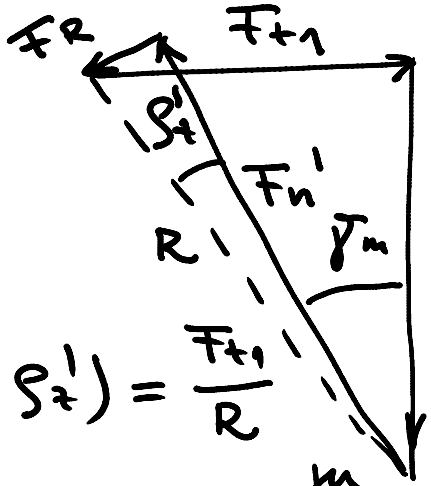
$$F_{a2} = F_{t1} \quad (2)$$

$T_2 \checkmark$; $\omega_2 \checkmark$

$$F_{t2} = \frac{2T_2}{d_{m2}} \quad (3)$$

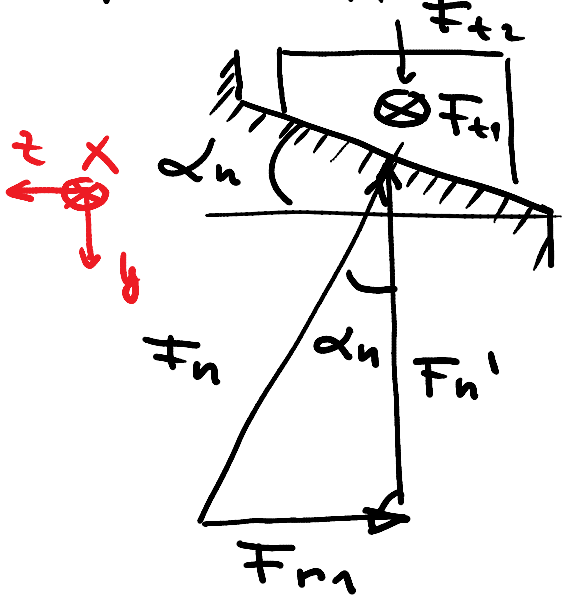
$$F_{a1} = F_{t2} \quad (4)$$





$$\sin(\rho_m + \rho_z') = \frac{F_{t1}}{R}$$

POGLED A



$$F_R = F_n \cdot \mu = F_n' \frac{\mu}{\cos\alpha_n} = F_n' \mu'$$

$$\cos\alpha_n = \frac{F_n'}{F_n}$$

$$\cos\rho_z' = \frac{F_n'}{R}$$

$$\sin(\rho_m + \rho_z') = \frac{F_{t1}}{F_n'} \cos\rho_z'$$

$$F_n' = \frac{F_{t1}\cos\rho_z'}{\sin(\rho_m + \rho_z')}$$

$$\operatorname{tg}\alpha_n = \frac{F_{n1}}{F_n'}$$

$$F_{r1} = F_n' \operatorname{tg}\alpha_n = \frac{F_{t1} \operatorname{tg}\alpha_n \cos\rho_z'}{\sin(\gamma_m + \rho_z')} \quad (5)$$

$$F_{r2} = F_{r1} \quad (6)$$

$$F_{r1} = \frac{F_{t1} \operatorname{tg}\alpha_n \cos\rho_z'}{\sin\gamma_m \cos\rho_z' + \sin\rho_z' \cos\gamma_m}$$

$$= \frac{F_{t1} \operatorname{tg}\alpha_n}{\sin\gamma_m + \operatorname{tg}\rho_z' \cos\gamma_m}$$

$$\operatorname{tg}\rho_z' = \mu'$$

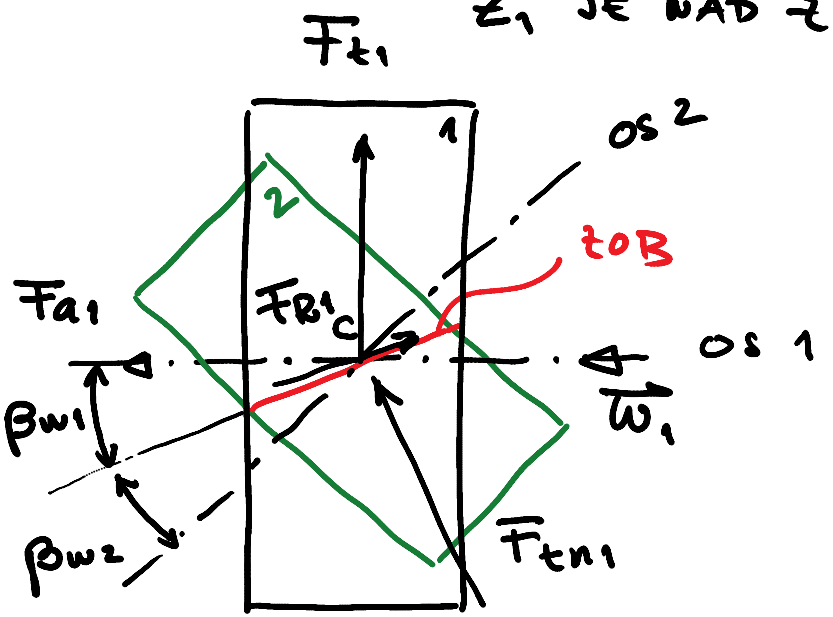
$$\mu' = \frac{\mu}{\cos\alpha_n}$$

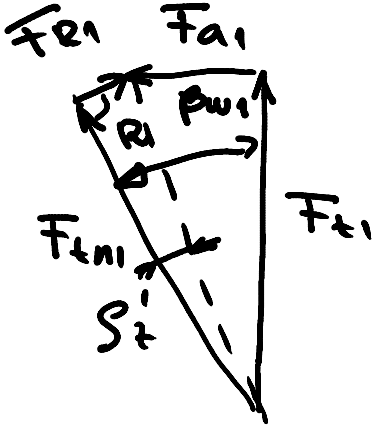
$$= \frac{F_{t1} \operatorname{tg}\alpha_n}{\sin\gamma_m + \mu \frac{\cos\gamma_m}{\cos\alpha_n}}$$

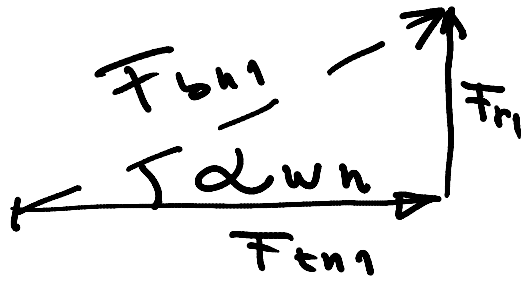
$$F_{r1} = \frac{F_{t1} \sin\alpha_n}{\sin\gamma_m \cdot \cos\alpha_n + \mu \cos\gamma_m}$$

SILE NA UIJAČNI ZOBNIŠKI DUOJICI

Z_1 JE NAD Z_2!







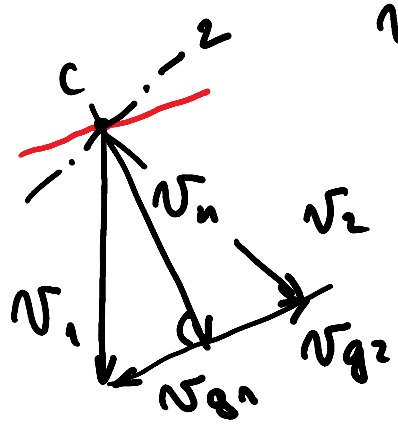
$$F_{t1} = \frac{2T_1}{d_{w1}}$$

$$\operatorname{tg}\beta_{w1} = \frac{F_{a1}}{F_{t1}}$$

$$F_{a1} = F_{t1}\operatorname{tg}(\beta_{w1} - \rho_z')$$

$$\operatorname{tg}\rho_z' = \frac{F_{R1}}{F_{tn1}} = \frac{\mu F_{bn1}}{F_{tn1}} = \frac{\mu}{\cos\alpha_{wn}}$$

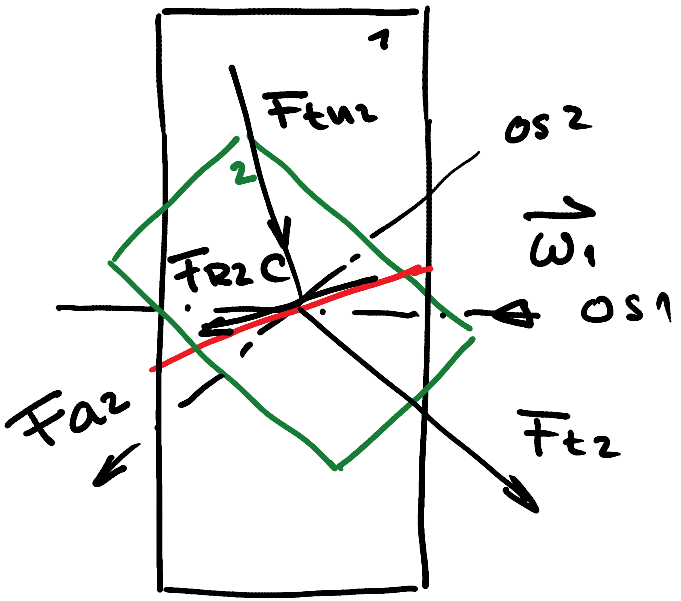
$v_n = v_{n1} = v_{n2}$

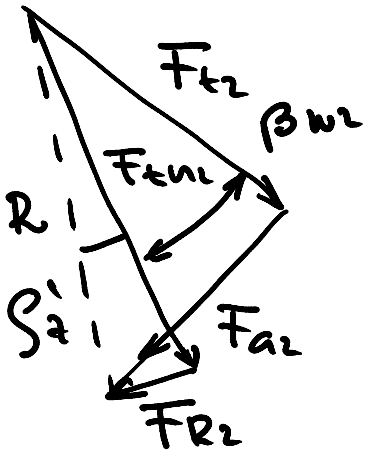


$$\operatorname{tg}\alpha_{wn} = \frac{F_{r1}}{F_{tn1}}$$

$$F_{r1} = F_{tn1}\cdot\operatorname{tg}\alpha_{wn} = \frac{R\operatorname{tg}\alpha_{wn}}{\cos\rho_z'^{-1}}$$

$$F_{r1} = \frac{\cos\beta_t' \, \mathrm{tg}\alpha_{wn} \, F_{t1}}{\cos(\beta_{w1} - \beta_t')}$$





$$F_{r2} = F_{r1}$$

$$F_{bn2} = F_{bn1}$$

$$F_{tn2} = F_{tn1}$$

$$F_{R2} = F_{R1}$$

$$F_{t2} = R\cos(\beta_{w2} + \beta_t')$$

$$R = \frac{F_{t1}}{\cos(\beta_{w1} - \beta_t')}$$

$$F_{t2} = F_{t1} \frac{\cos(\beta_{w2} + \beta_t')}{\cos(\beta_{w1} - \beta_t')}$$

$$F_{a2} = F_{t2} \cdot \mathrm{tg}(\beta_{w2} + \beta_t')$$