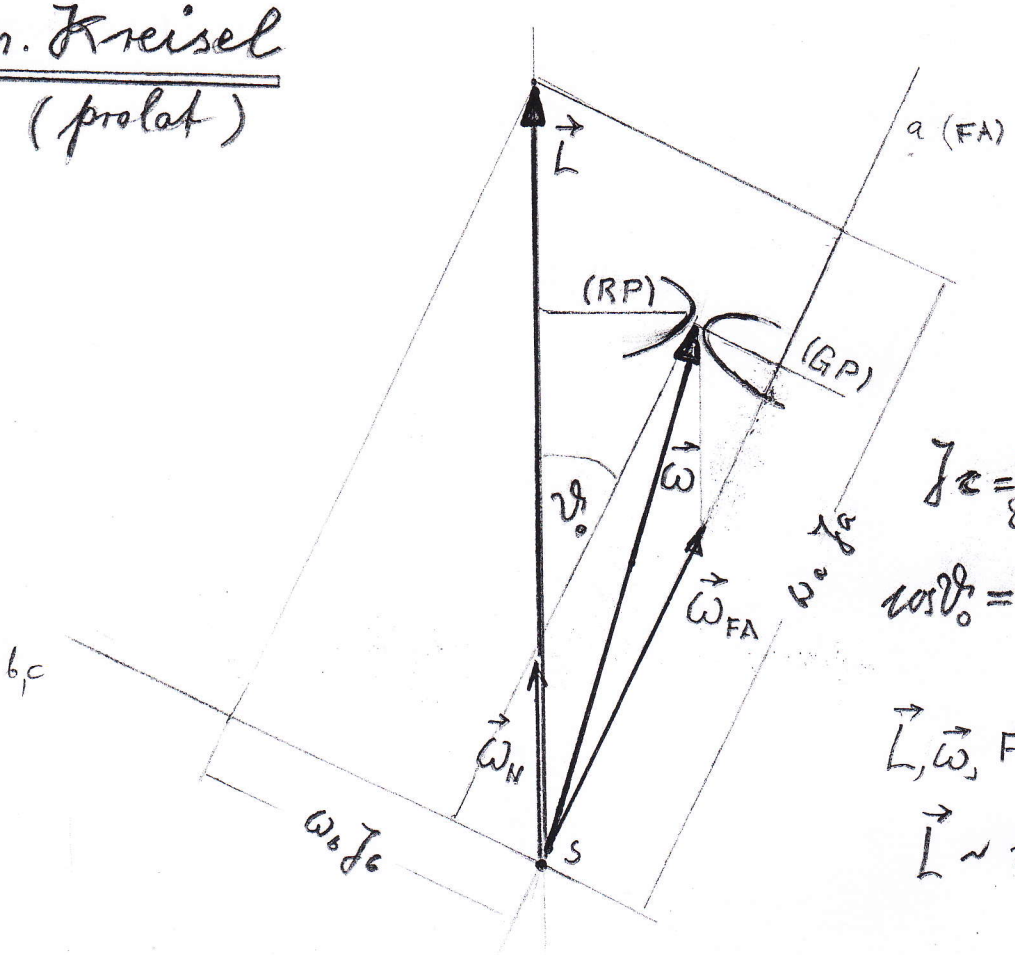
symm. Kreisel
(prolat)



$J_c = J_b > J_a$

$\cos\vartheta_0 = \frac{\omega_a \cdot J_a}{L}$

$\vec{L}, \vec{\omega}$, FA ~ in einer Ebene

$\vec{L}$ ~ raumfest

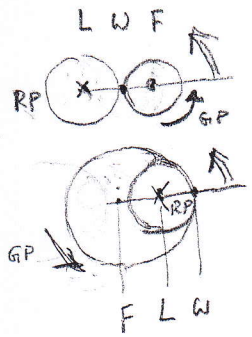
$$\vec{\omega} = \underline{\omega_b}\,\vec{e}_b + \omega_a \vec{e}_a \;;\; \vec{L} = J_b \underline{\omega_b}\,\vec{e}_b + J_a \omega_a \vec{e}_a$$

$$\vec{L} = J_b(\vec{\omega} - \omega_a \vec{e}_a) + J_a \omega_a \vec{e}_a$$

$$\vec{L} = J_b \vec{\omega} + (J_a - J_b)\omega_a \vec{e}_a$$

$$\vec{\omega} = \frac{\vec{L}}{J_b} + \omega_a \frac{J_b - J_a}{J_b}\vec{e}_a = \frac{1}{J_b}\vec{L} + \frac{J_b - J_a}{J_b \cdot J_a} \cdot L \cos\vartheta_0\, \vec{e}_a$$

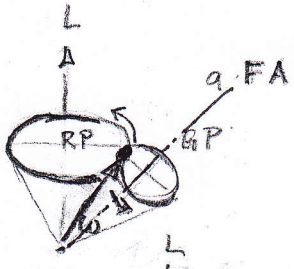
$$\vec{\omega} \overset{!}{=} \vec{\omega}_{Nut} + \vec{\omega}_{FA}$$

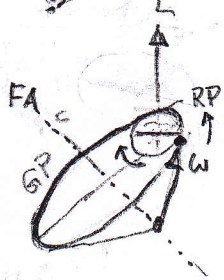


$$\vec{\omega}_{Nut} = \frac{1}{J_b} \cdot \vec{L} \quad (\sim RP)$$

Abrollen aussen!

$$\vec{\omega}_{FA} = \frac{J_b - J_a}{J_b \cdot J_a} L \cos\vartheta_0\, \vec{e}_a \quad (\sim GP)$$





- im obigen Fall ($J_a = J_b < J_c$; mit c als FA) wird ω_{FA} negativ: Abrollen <u>innen</u>! →