$$\begin{cases} J\cdot\dfrac{d^2\psi}{dt^2} = M_B + M_u F(\sigma(x,y)) \\ F(\sigma) = \begin{cases} +1, & \sigma>0 \\ -1, & \sigma<0 \end{cases} \\ \sigma = x + k\cdot y = [\text{град} + c\cdot \text{град}/c] = [\text{град}] \end{cases}$$

1). $J = [\ldots] \sim \begin{bmatrix} J_1 & \sim 0 & \sim 0 \\ \sim 0 & J_2 & \sim 0 \\ \sim 0 & \sim 0 & J_3 \end{bmatrix}$

$J_1 = J_2 = J_3$ } сферы

2). $\omega_1 \cdot \omega_2 \sim 0$

$\omega_2 \cdot \omega_3 \sim 0$

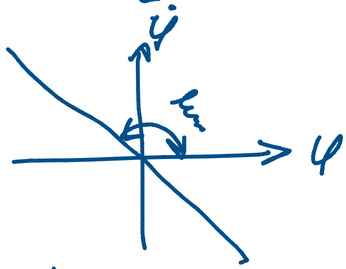
$\omega_1 \cdot \omega_3 \sim 0$

3). $M_B = const$

$M_u = const \cdot F(\sigma)$

$M_B = \begin{Bmatrix} M_{Bx} \\ M_{By} \\ M_{Bz} \end{Bmatrix}$

эквив. $\begin{cases} g = \dfrac{M_{Bx}}{J_x} = \left[\dfrac{H\cdot м}{кг\cdot м^2}\right] = \left[\dfrac{град}{c^2}\right] \\ a = \dfrac{M_{ux}}{J_x} = \end{cases}$



$$\begin{cases} \dfrac{d^2\psi}{dt^2} = g + a\cdot F(\sigma) \\ \sigma = x + ky \end{cases}$$

$k = tg\,\xi$

$$x - x_0 = \frac{y^2 - y_0^2}{2(g + a F(\sigma))}$$

$$y = \dot{x} = \frac{dx}{dt} \qquad x = x(y^2) = cy^2 + b$$