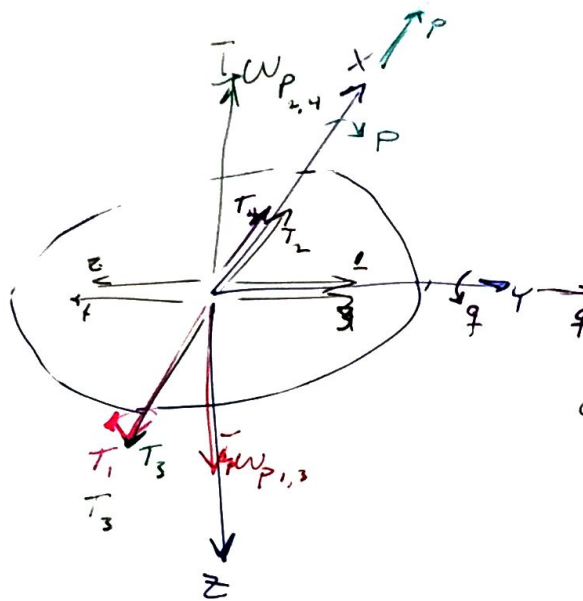


TORQUE APPLIED TO BODY DUE TO ROTATION



$\omega_{P,2,4}$: ANGULAR VELOCITY OF PROPELLERS 2 & 4

$\omega_{P,1,3}$: ANGULAR VELOCITY OF PROPELLERS 1 & 3

P: BODY ROLL RATE ABOUT BODY X-AXIS

q: BODY PITCH RATE ABOUT BODY Y-AXIS

$$\omega_{precess} = P \hat{x} + q \hat{y}$$

$$T_g = I_P \omega_P \times \omega_{precess}$$

$$T_1 = I_P \omega_1 \times q \hat{y}$$

$$T_3 = I_P \omega_3 \times q \hat{y}$$

$$T_2 = I_P \omega_2 \times q \hat{y}$$

$$T_4 = I_P \omega_4 \times q \hat{y}$$

ABOUT X-AXIS

$$\Sigma T_x = T_x = I_P q (\omega_2 + \omega_4 - \omega_1 - \omega_3)$$

$$\Sigma T_y = T_y = I_P P (\omega_1 + \omega_3 - \omega_2 - \omega_4)$$