$$f_{osc}^{-1}(W u_d) = PWM_d \qquad \text{control allocation}$$

$$\underbrace{\downarrow}_{\text{? cancel...}}$$

$$f_{osc} \, PWM_d = T_d \qquad \text{ESC}$$

$$G_{at}(s) \, T_d \text{ or } \boxed{\frac{1}{\tau s + 1} \, T_d} \qquad \text{Motor Dynamics}$$

$$W \qquad \qquad \text{Input Map}$$

pos

$$S = \bar{S} + \Delta S$$
$$v = \Delta v \leftarrow \text{vel}$$
$$\omega = \Delta \omega \leftarrow \text{angular vel}$$
$$\phi = \Delta \phi$$
$$\theta = \Delta \theta$$
$$\psi = \Delta \psi$$

Rigid body dynamics

Desired output is θ and ψ.

1) How get in format of A, B, C?
2) How get observer?