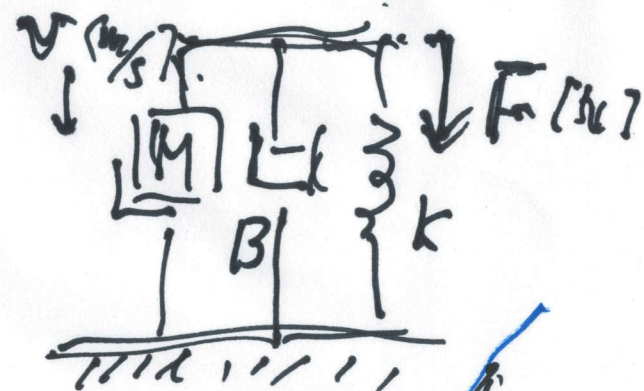


24.11.18 BLE (07) - 1/2
2nd order system

$$\vec{F} = M \ddot{x} + B \dot{x} + K \int x dx$$

$[N] \quad [kg] [m/s^2] \quad \frac{N}{m/s} [m/s] \quad [N/m] [m]$

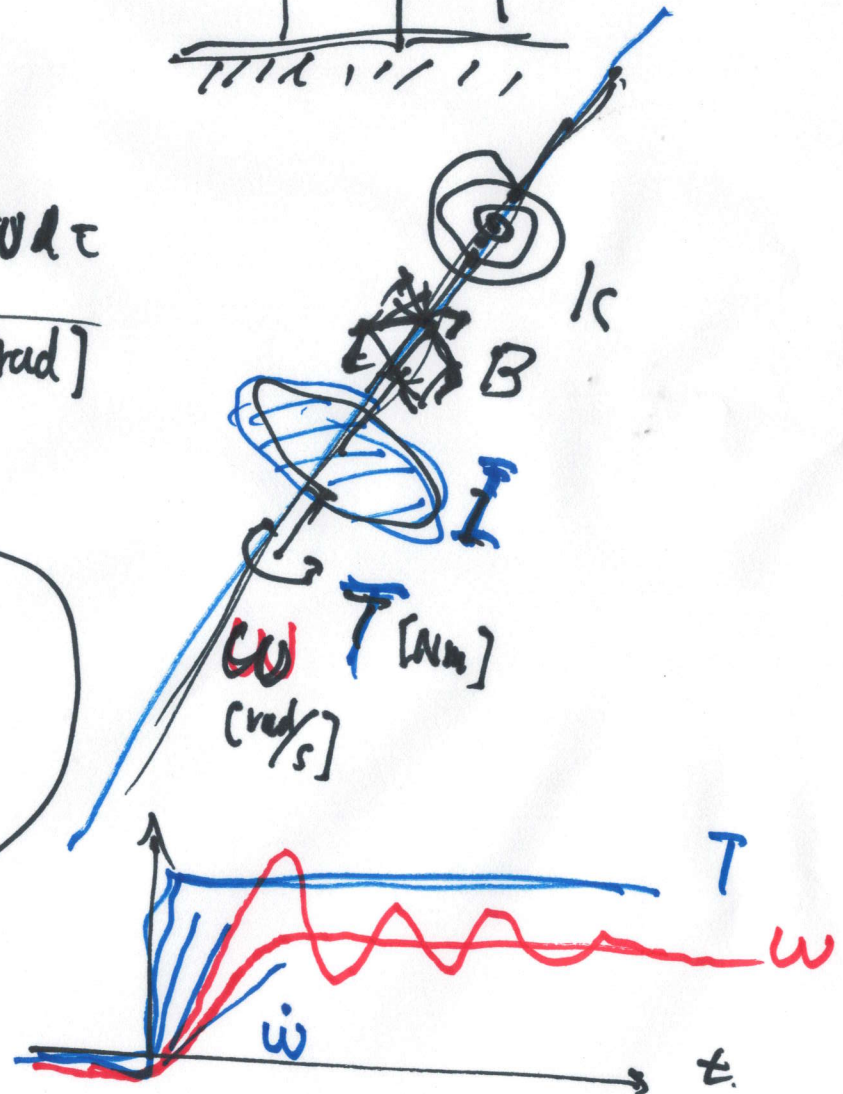


$$\vec{T} = I \ddot{\omega} + B \dot{\omega} + K \int \omega d\tau$$

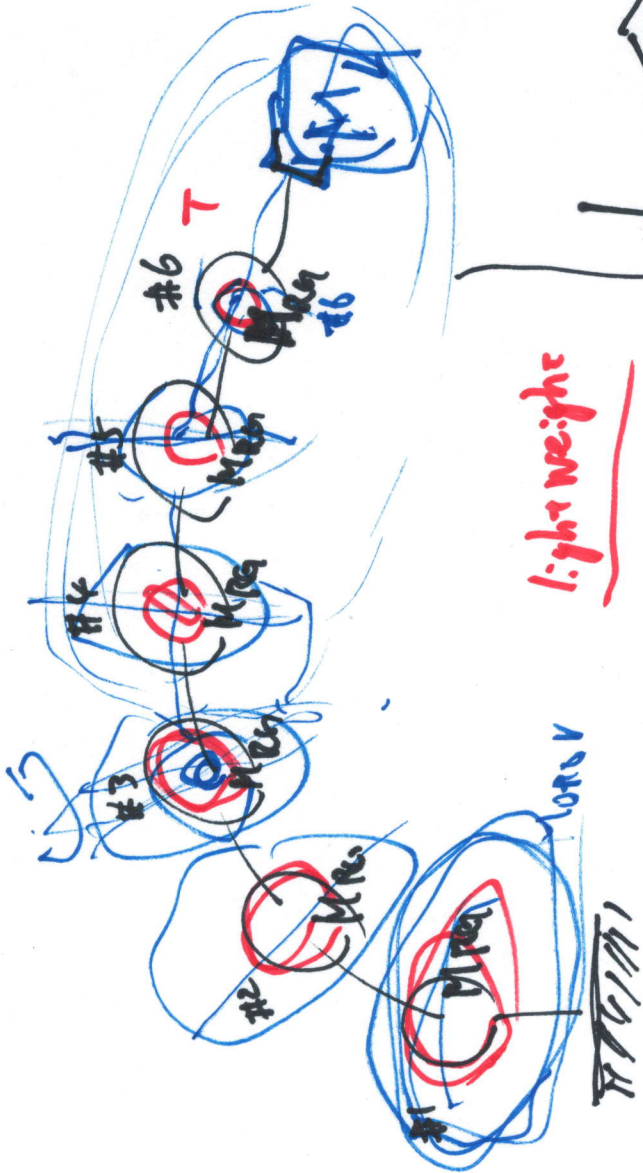
$[Nm] \quad [Nm] [rad/s^2] \quad \frac{Nm}{rad/s} [rad/s] \quad [Nm/rad] [rad]$

$\frac{Nm}{rad/s^2} = \frac{kg \cdot m^2 \cdot m}{s^2 \cdot rad} = kg \cdot m^2$

$I = \int R^2 dm$

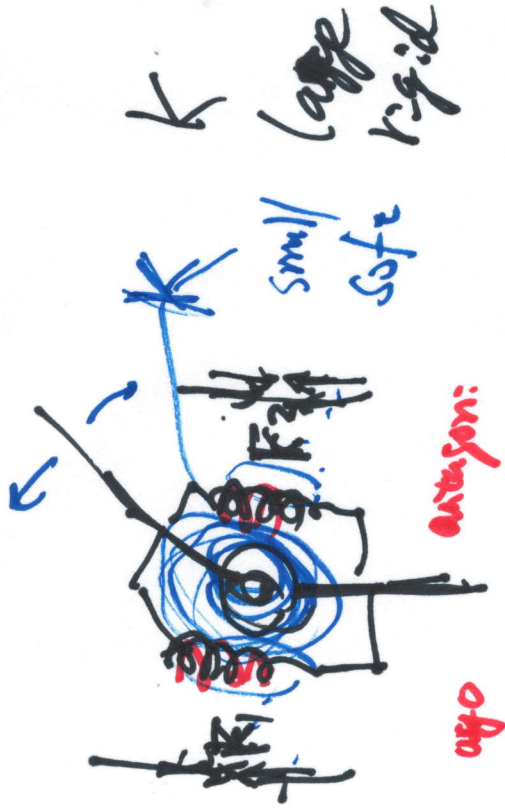


2025.11.18 BIE (07) - 2/2



light weight

DC motor 1200 rpm
 rotate/min
 wave/60s
 20 r/s
 RG



small
 safe

K large rigid

antagon:

offo