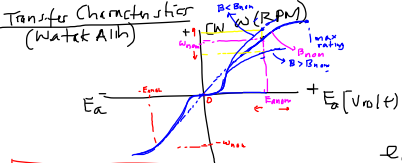


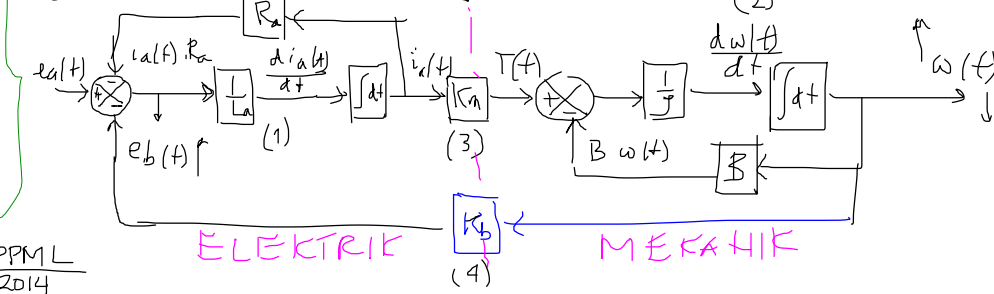
Pada keadaan tunak (steady state)
 $\frac{di_a(t)}{dt} = 0 \Rightarrow \frac{d\omega(t)}{dt} = 0$ semua konstan
 (1) $0 = \frac{1}{L_a}(E_a - E_b - I_a R_a) \rightarrow E_b = E_a - I_a R_a$
 (2) $0 = \frac{1}{J}(T - B\omega) \rightarrow T = B\omega$
 (3) $T = K_m I_a \rightarrow B\omega = K_m I_a \Rightarrow I_a = \frac{B\omega}{K_m}$
 (4) $E_b = K_b \omega$
 $K_m \omega = E_a - I_a R_a = E_a - \left[\frac{B\omega}{K_m}\right] R_a$
 $(K_m K_b + B R_a) \omega = E_a$
 Kecepatan nominal $\omega_{nom} [rad/sec] = \frac{E_a}{K_m K_b + B R_a}$



Model MATEMATIK

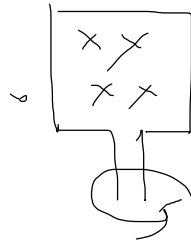
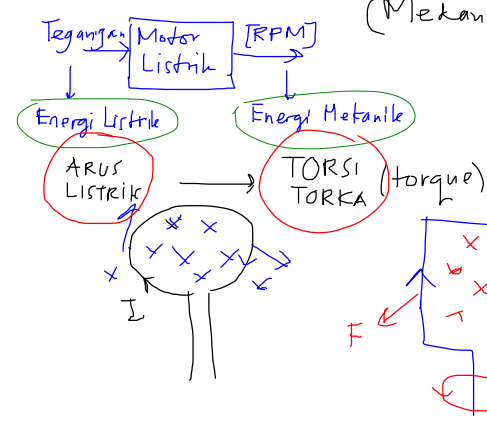
Hukum Ohm
 $E_a(t) - E_b(t) = I_a(t) R + L \frac{di_a(t)}{dt}$
 $\frac{di_a(t)}{dt} = \frac{1}{L} [E_a(t) - E_b(t) - I_a(t) R] \dots (1)$
 Hukum Newton
 $T(t) = J \frac{d\omega(t)}{dt} + B\omega(t)$ ω omega Ω . OMEGA
 $\frac{d\omega(t)}{dt} = \frac{1}{J} [T(t) - B\omega(t)] \dots (2)$
 Sifat Motor
 $T(t) = K_m I_a(t) \dots (3)$
 $K_m = \frac{T_{nom}}{I_{a nom}}$
 Sifat Generator
 $E_b(t) = K_b \omega(t) \dots (4)$

Bagian Kotak



PPM L
2014

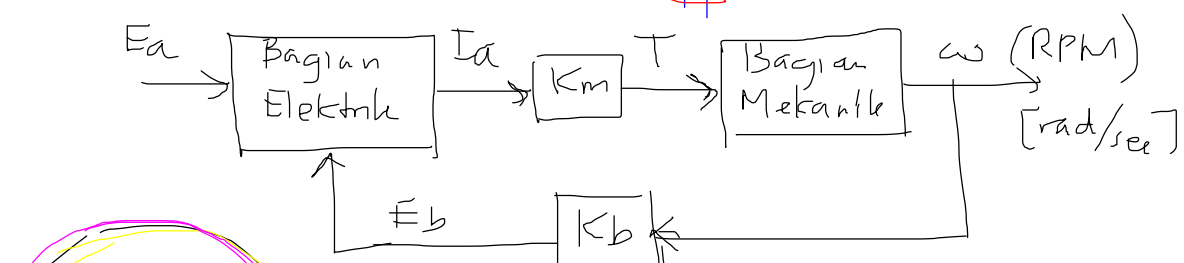
* Pemodelan Motor Dc Terkendali Jangkar
 (Mekan Magnet Tetap)



Tugas 1: Type/Merk Data sheet Motor.

- * Kapasitas (HP, W, kWh)
- * Nominal:

- E_a, I_a, ω, B, T
- R_a, L_a, J
- K_m, K_b



Model FISIKA

