Te - (Ttb+Tfr)=0 -> no movement $(Nm^*s)(kg^*m^2)^{-1} = (N^*s/kg)^*m^{-1} = m/(s^*m) = rad$ balance of force: Te=Ttb+Tfr integrate(1 Nm)dt = 1 Nm*s Nm*s/rad] V*s/rad] Nm/rad] [kg*m²] [Nm/A] [ohm] rotor dyn. friction torsion bar const back EMF const coil inductance coil resistance torque const rotor inertia KTR: BEM: 유 유 유 유 [Nm*s] [rad/s] [rad] N S W ZmZ electrical torque, gen. by coils rotor dynamic friction torque current controller output current controller input angular momentum torsion bar torque angular position angular position angular velocity shunt voltage Ucco: ydeg: Ucci: yrad: 구 다. 국 구 다.

AngPos int3 inertia Torsionbar const ≯ $_{\mathrm{Ttb}}$ Rotor ▼1/RIN torque constant friction FR Ţ Ttb Тe motive force constant Torque BEM Back el. TRC IC Inductance 0011 V1/CL Shunt res. CR SHR Coil res. IntCoil ლ|ს Galvanometer Ush Vshunt Vcoil