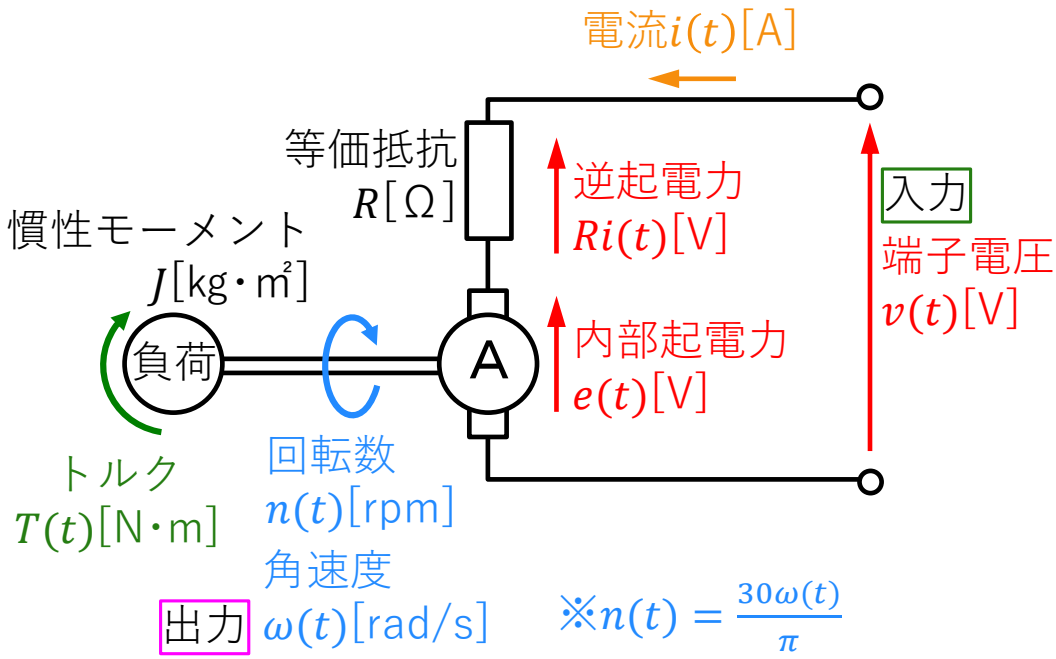


制御 (16) 《ブロック線図の作成1》

(励磁磁束Φ一定の他励形直流電動機)



$$v(t) = e(t) + Ri(t) \dots \textcircled{1}$$

直流電動機の公式より

$$T(t) = K'\Phi i(t) = K_1 i(t) \dots \textcircled{2} \quad \text{※} K_1 (\text{定数}) = K'\Phi$$

$$T(t) = J \frac{d\omega(t)}{dt} \dots \textcircled{3}$$

$$e(t) = K\Phi n(t) = K\Phi \frac{30\omega(t)}{\pi} = K_2 \omega(t) \dots \textcircled{4} \quad \text{※} K_2 (\text{定数}) = \frac{30K\Phi}{\pi}$$

①②③④をラプラス変換すると、

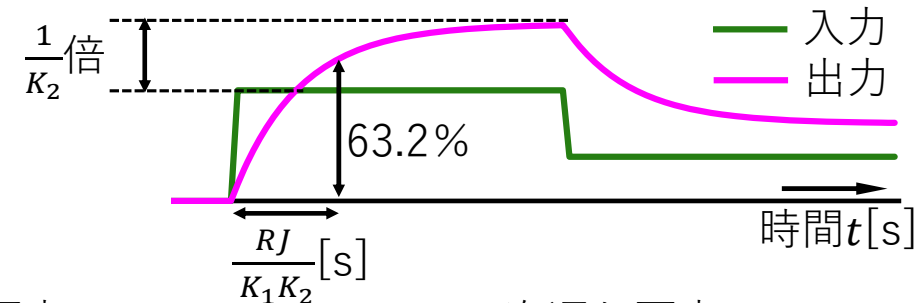
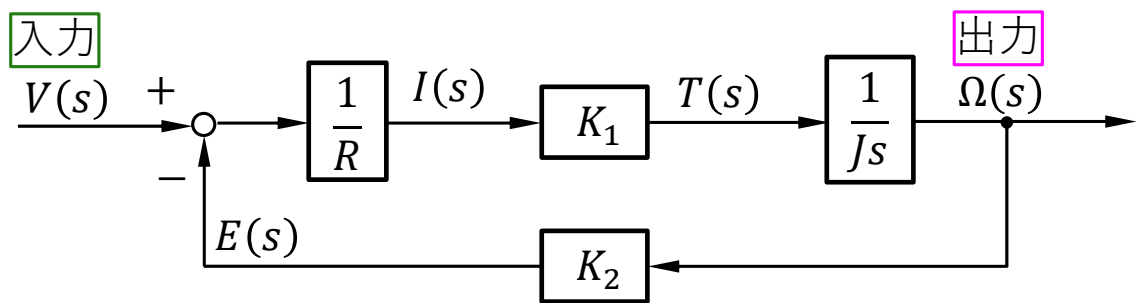
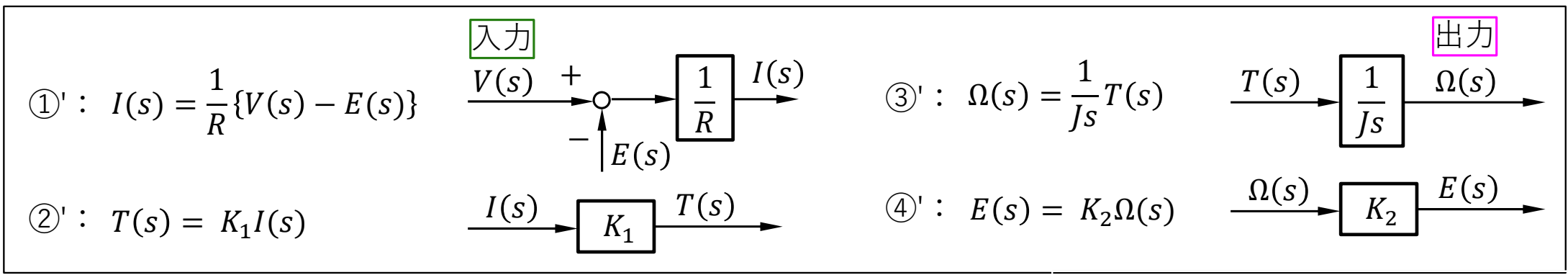
$$V(s) = E(s) + RI(s) \quad I(s) = \frac{1}{R} \{V(s) - E(s)\} \dots \textcircled{1}'$$

$$T(s) = K_1 I(s) \dots \textcircled{2}'$$

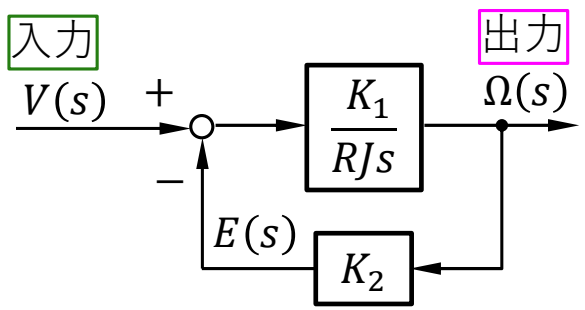
$$T(s) = Js\Omega(s) \quad \Omega(s) = \frac{1}{Js} T(s) \dots \textcircled{3}'$$

$$E(s) = K_2 \Omega(s) \dots \textcircled{4}'$$

制御 (17) 《ブロック線図の作成2》



等価変換



等価変換

