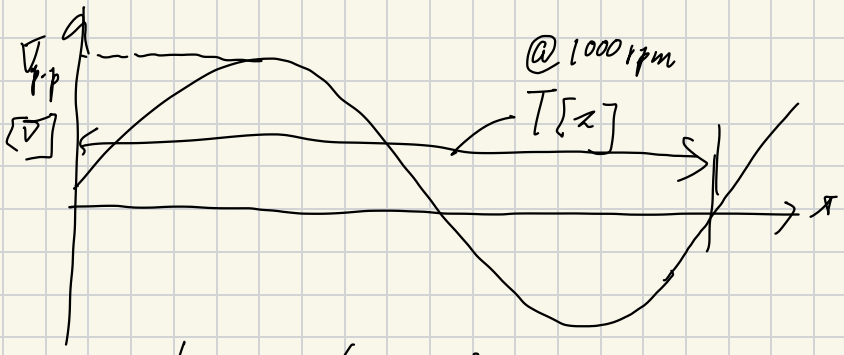
PSIMにおけるPMSMの誘起電圧パラメータと永久磁石磁束との関係性

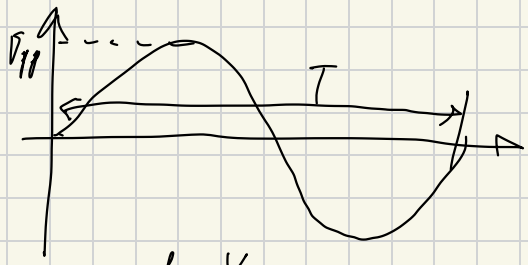
PSMの誘起電圧定数：K_e [V_{pp}/krpm]



$$T = \frac{1}{f} = \frac{1}{\frac{1000}{3\times 2}\times P_n} = \frac{3}{50}\cdot\frac{1}{P_n} = \frac{0.06}{P_n}$$

$$V_{pp} = K_e\ [V]\ @1000rpm$$

永久磁石磁束Φ_aと誘起電圧の関係



$f = 1/T$

$$\Phi_a = \frac{\sqrt{3}}{2\pi}\times\frac{|\dot{V}_{uv}|}{f} = \frac{\sqrt{3}}{2\pi}\times\frac{\sqrt{2}V_{pp}}{f}\cdot f \rightarrow V_{pp} = \sqrt{\frac{2}{3}}\times 2\pi f\times\Phi_a$$

$\therefore$

$$K_e = \sqrt{\frac{2}{3}}\times 2\pi\times\frac{50}{3}\cdot P_n\cdot\Phi_a$$