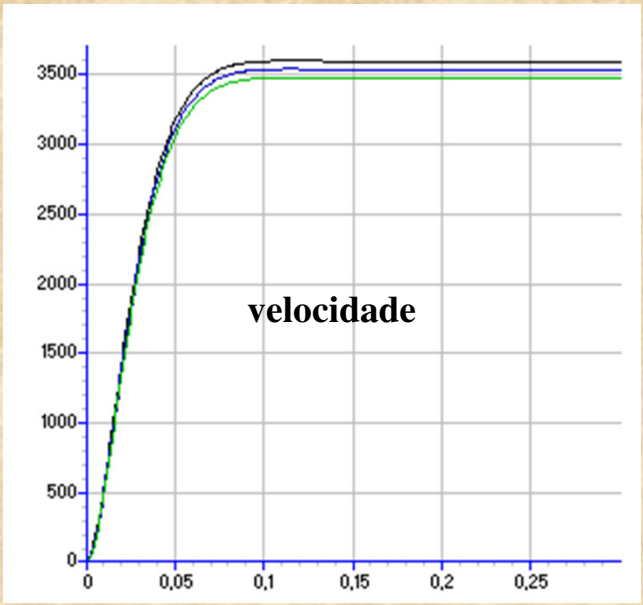
Motor CC Excitação Independente.
Efeito de carga

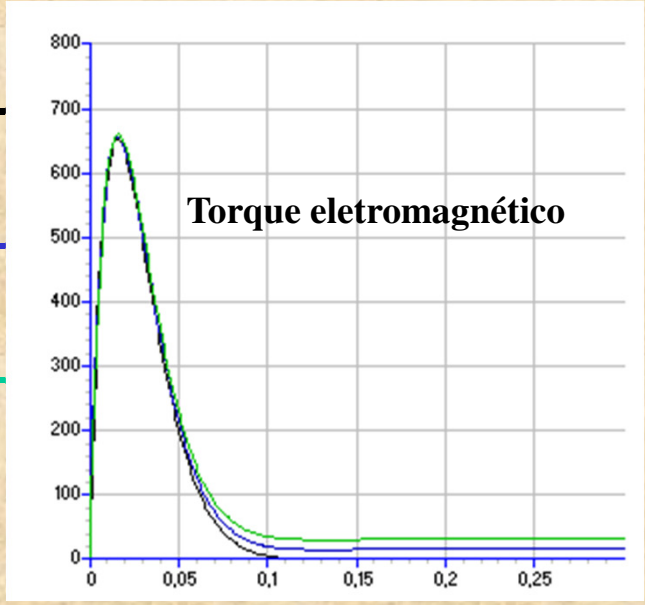
- **DADOS FORNECIDOS DO MOTOR**
  - **Potência nominal: 15 hp**
  - **Velocidade Nominal: 3500 rpm**
  - **Tensão Nominal: 230 V - Corrente Nominal: 54 A**
  - **Resistência e indutância de armadura: Ra = 0,153 Ω, La=1,3 mH**
  - **Potência total consumida a plena carga: 12,2 kW**
  - **Potência de campo consumida: 150W**
  - **Indutância de campo: Lf = 29,97 H**
  - **Momento de inércia: Jm = 0,068 kg.m^2**
- **DADOS CALCULADOS DO MOTOR**
  - **Resistência de campo: Rf=352,7 Ω**
  - **Velocidade nominal: w = 366,5 rad/s**
  - **Torques eletromagnético e de carga nominais: Tel = 32,7 Nm, TL = 30,5 Nm**
  - **Coeficiente de atrito viscoso: B = 0,0029 Nms/rad**
  - **Constante de tensão e torque ka = 0,61 Vs/rad**
  - **Constante de torque com campo (campo variável): kaf = 0,0112 Nm/A^2**

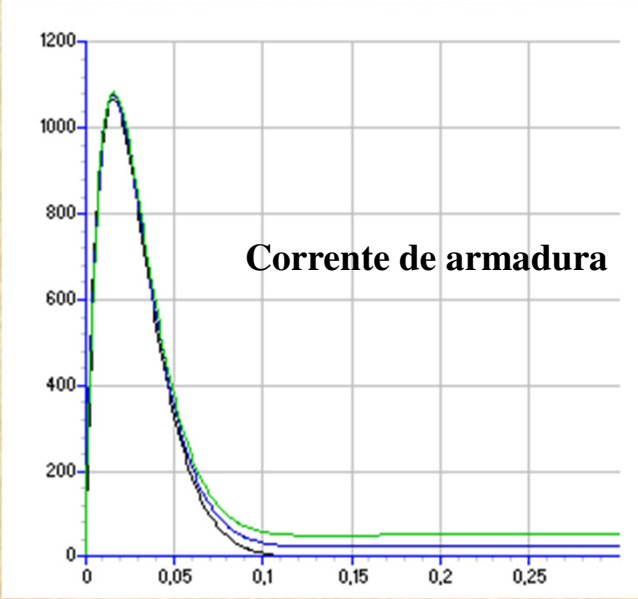


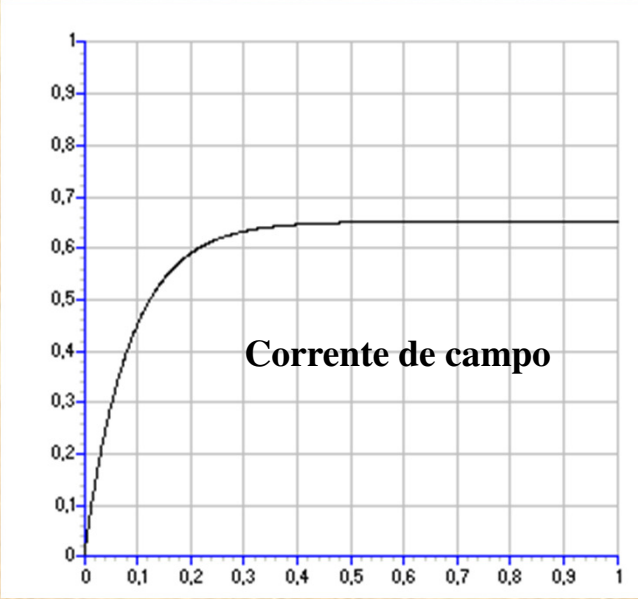
TL=0 NM

TL=15 NM

TL=30.5 NM





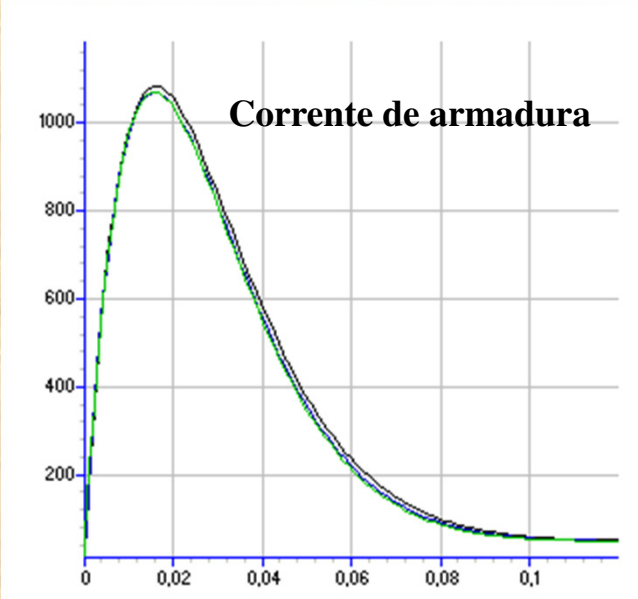


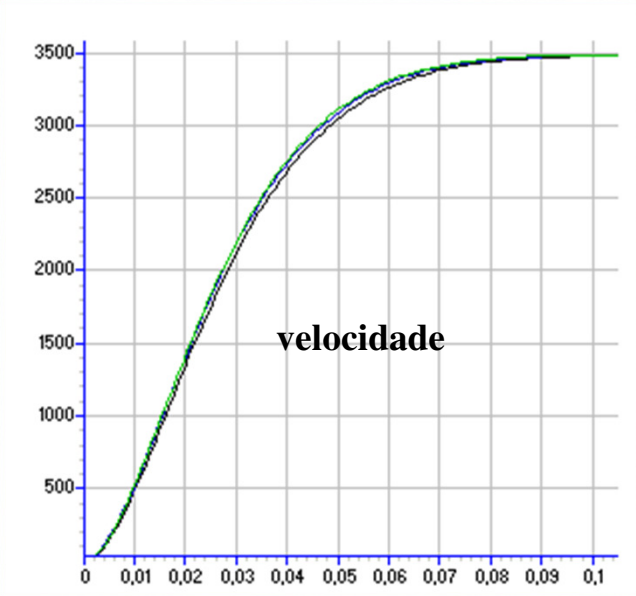
Motor CC Excitação Independente.
Efeito de carga (Cargas tipos atrito e ventilação)

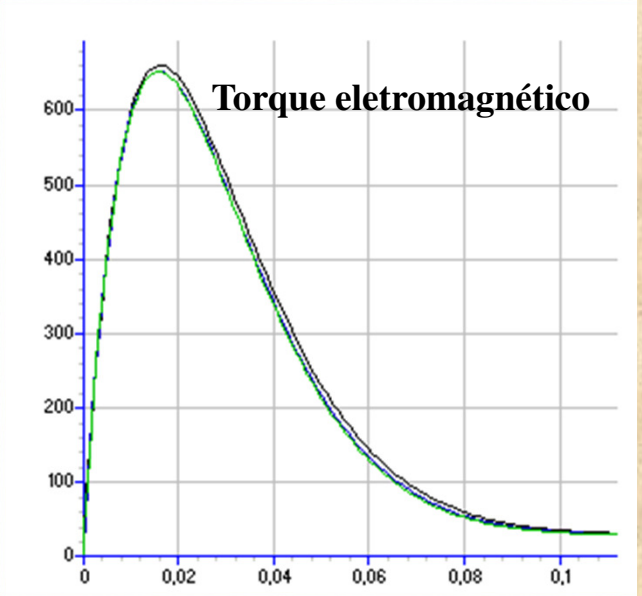
TL=30,5 NM

TL=0,083.w NM

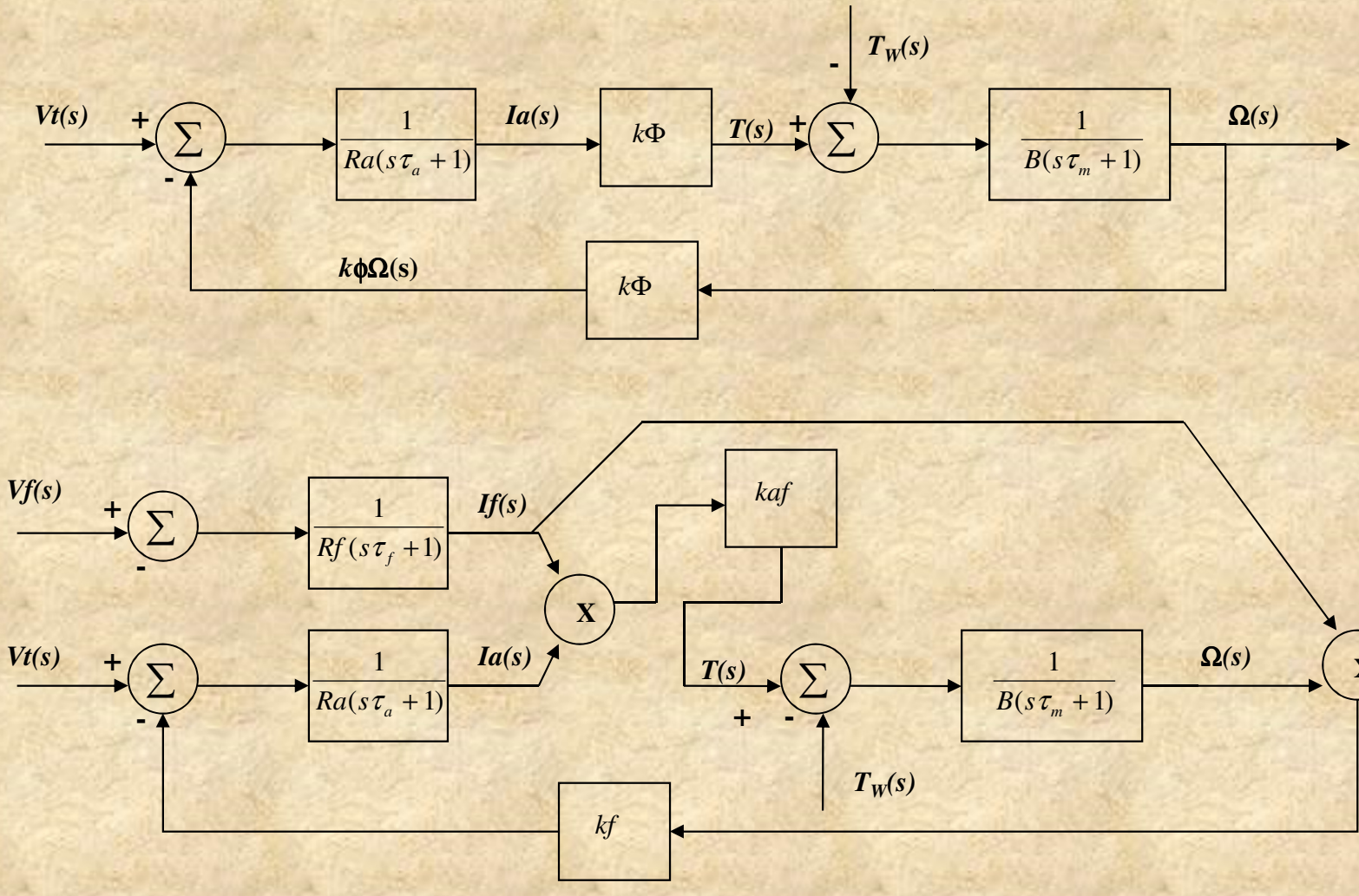
TL=0,000227.w^2 NM



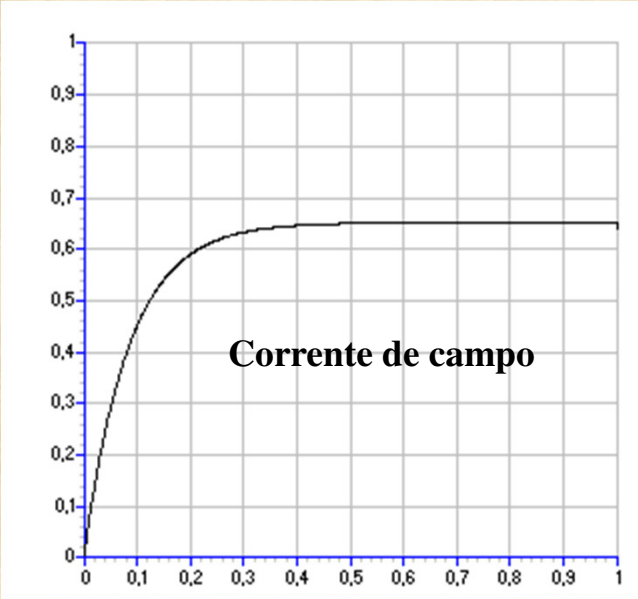


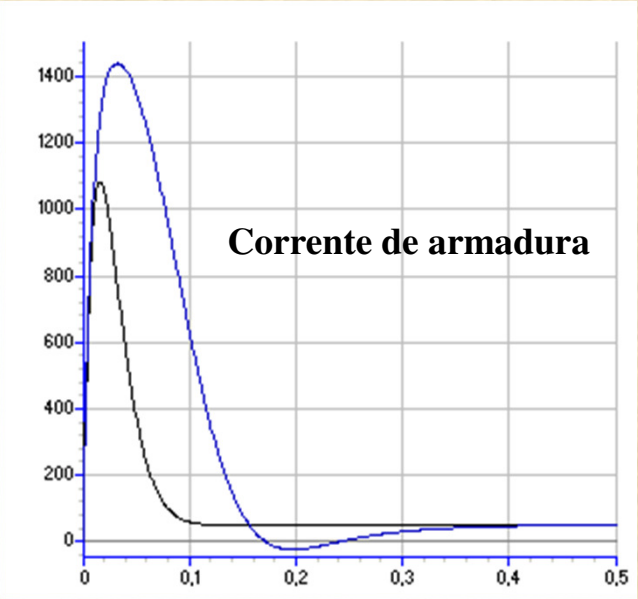


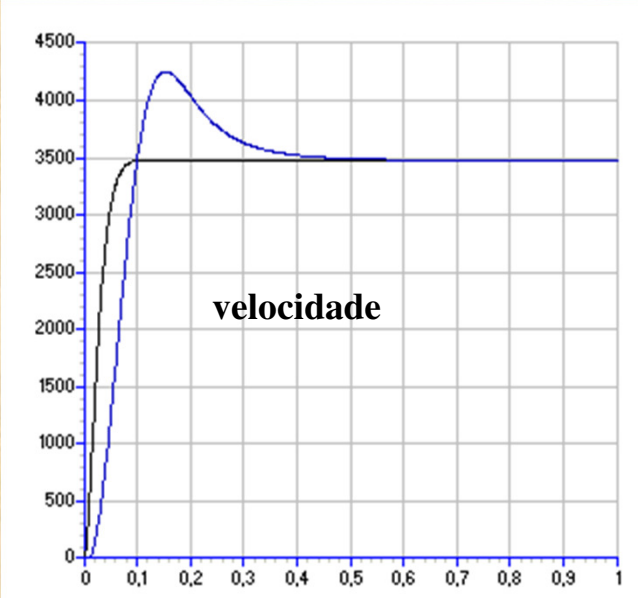
Motor CC excitação independente
Efeito da excitação do campo

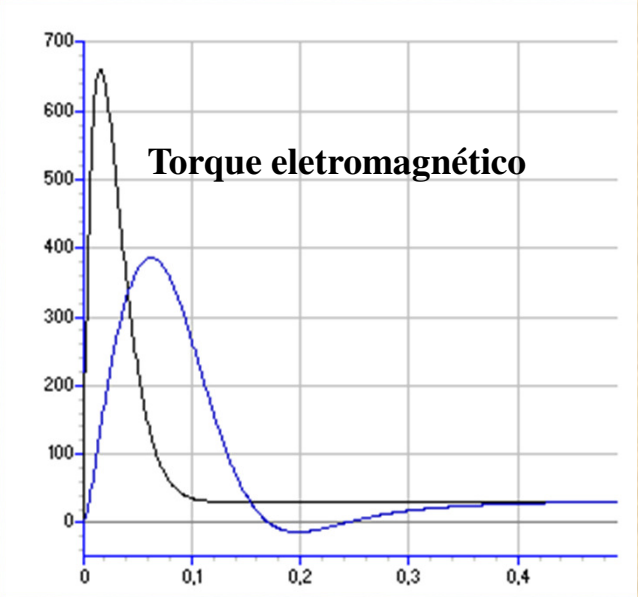


Efeito da excitação do campo

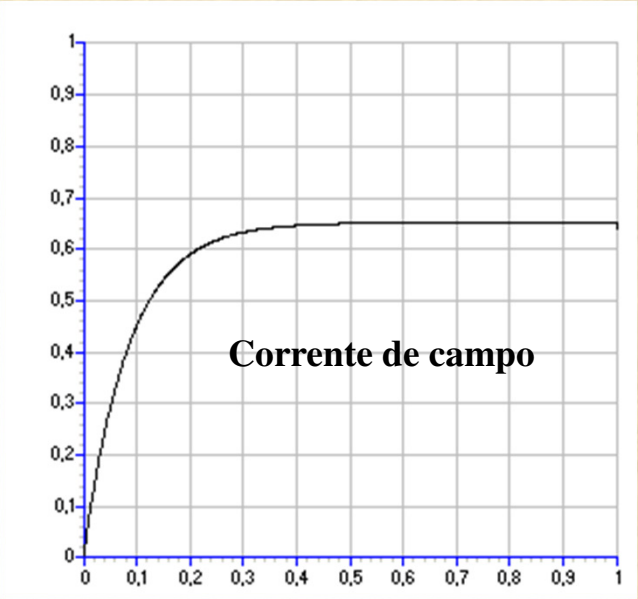


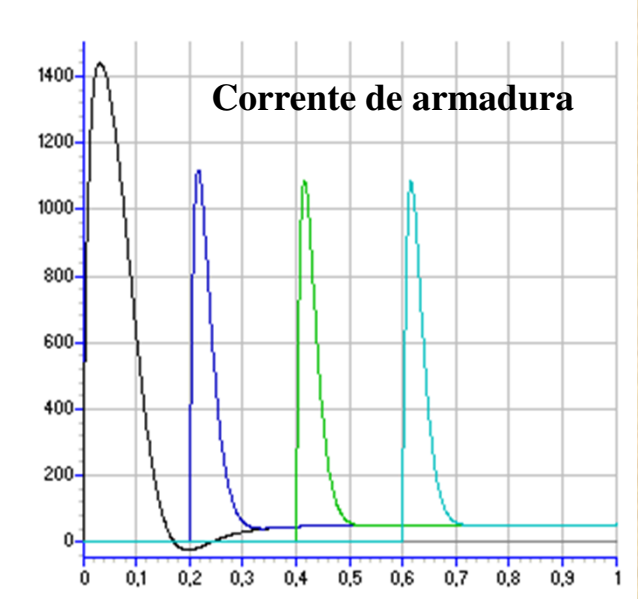


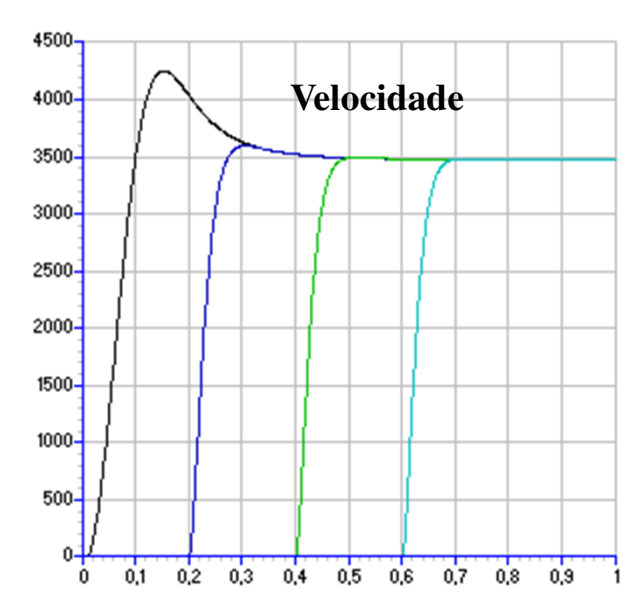


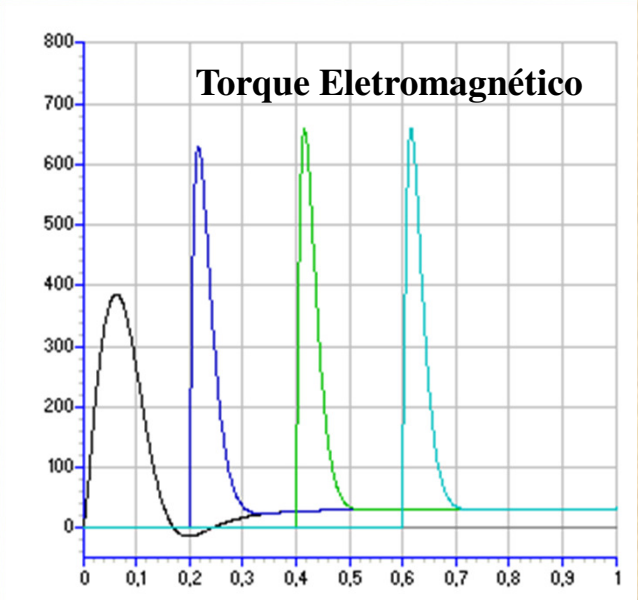


Efeitos de pré-excitação do campo

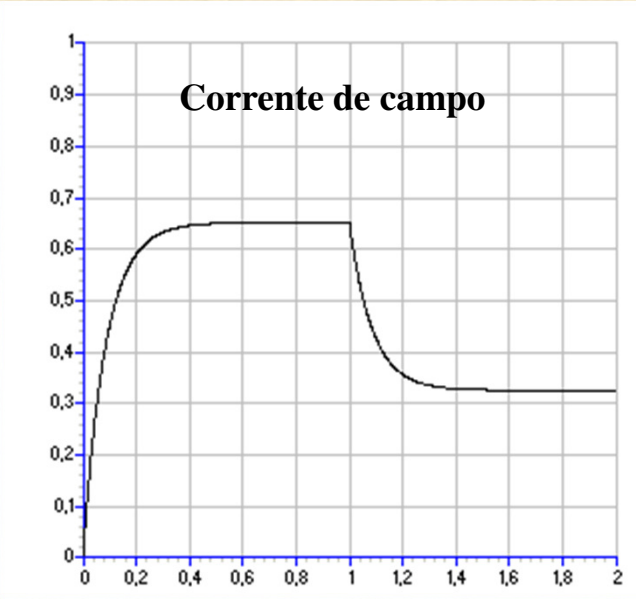


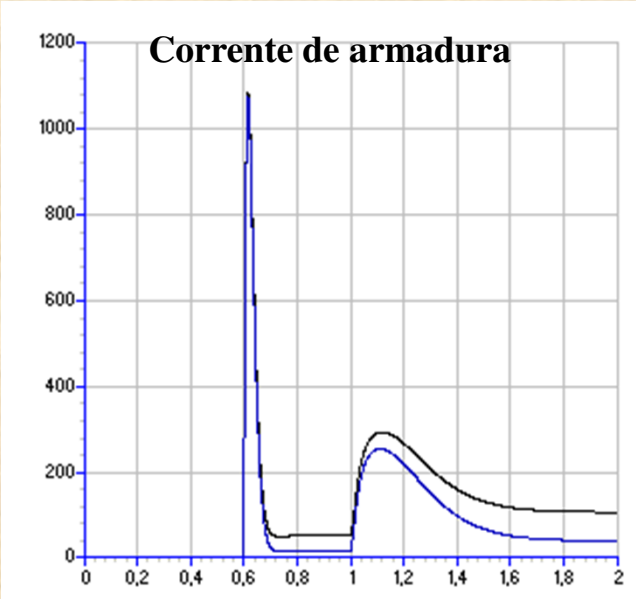


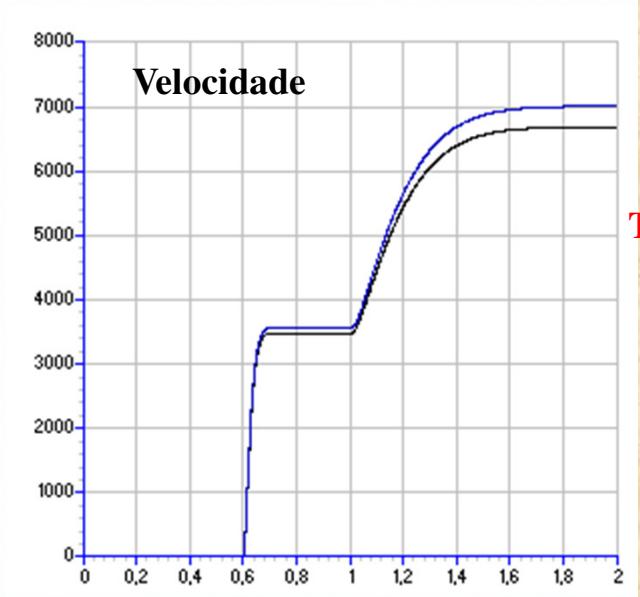




Acionamento em sobre-velocidade por enfraquecimento de campo

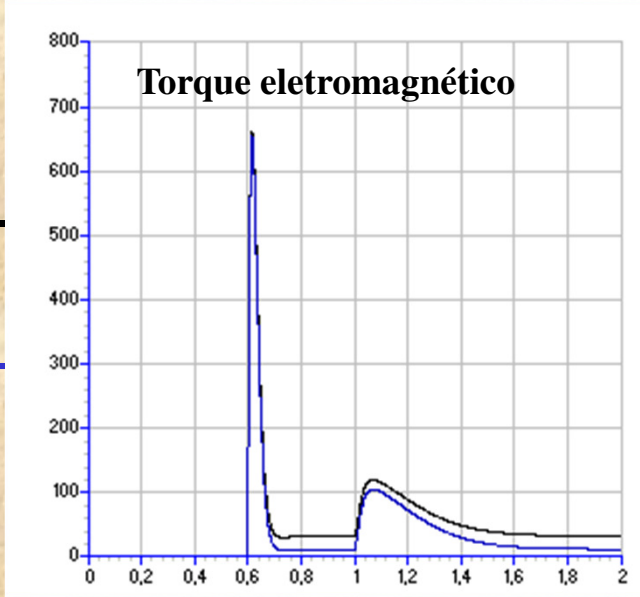




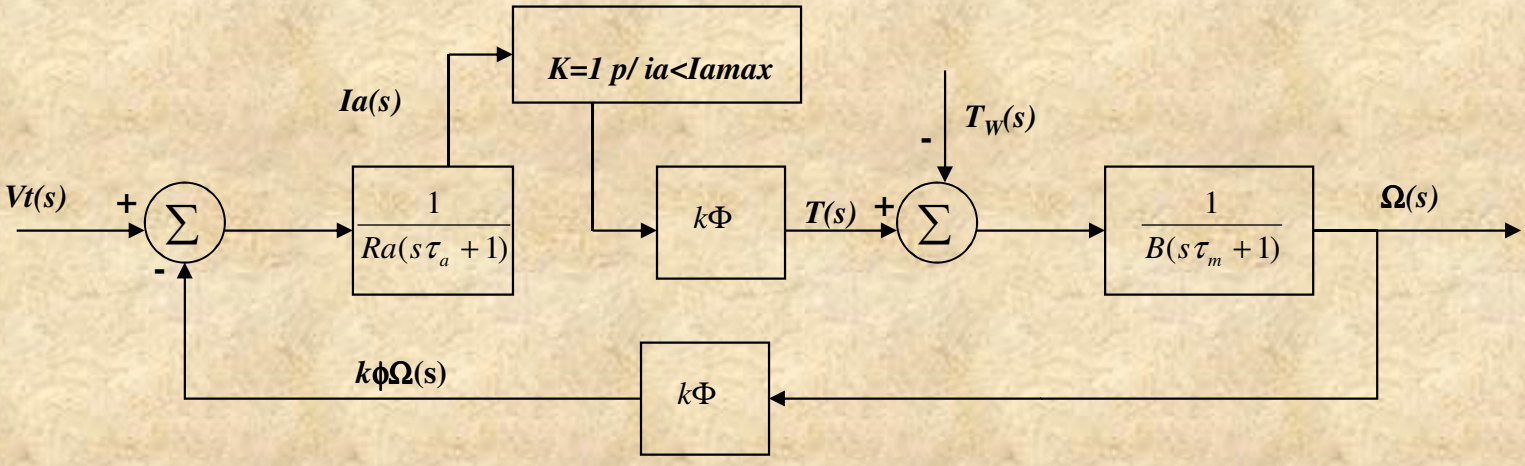


TL=30.5 NM

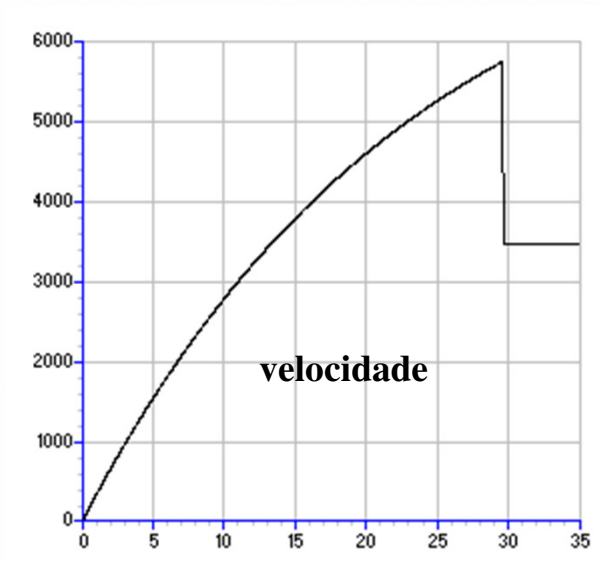
TL=0 NM

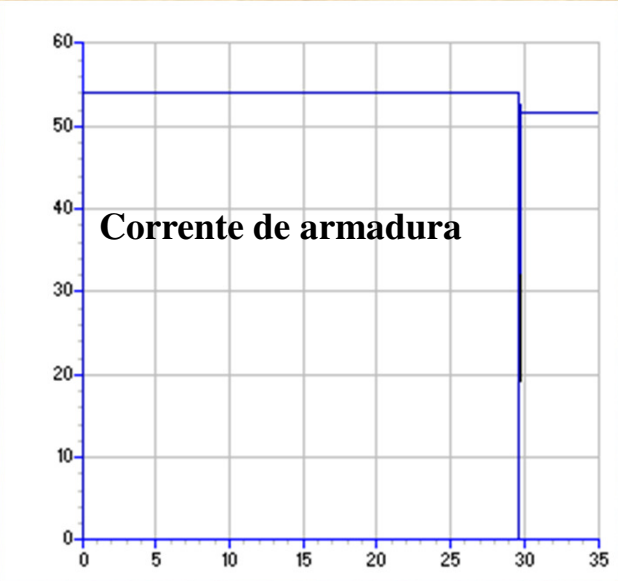


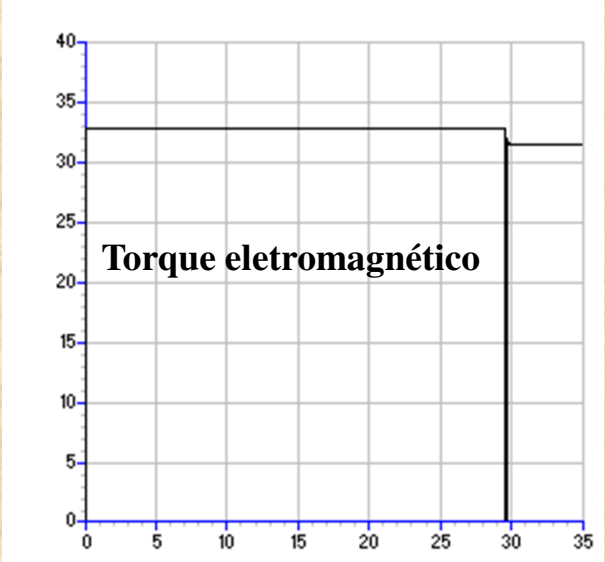
Efeitos da limitação da corrente de armadura



Efeitos da limitação da corrente de armadura



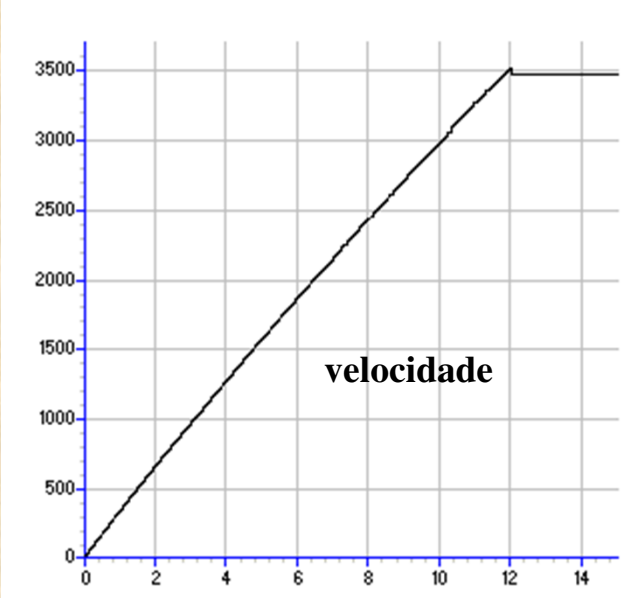


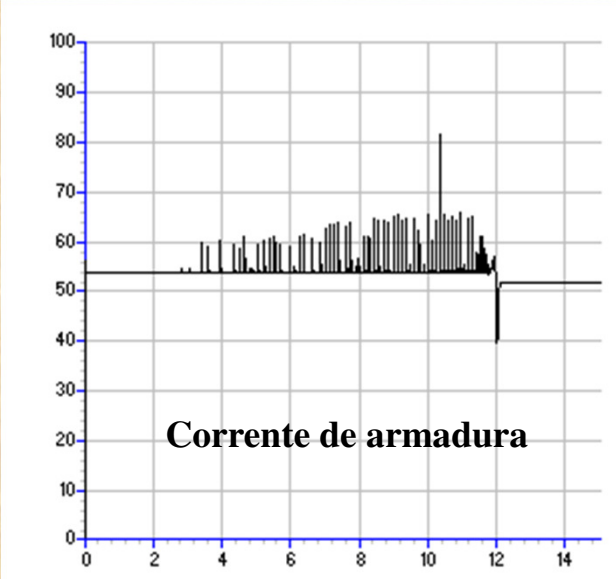


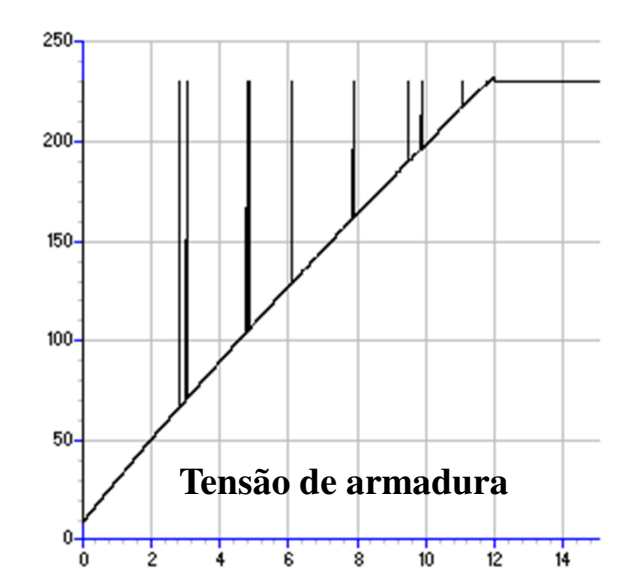
$$vt = k\Phi\omega + La\frac{dia}{dt} + Ra \bullet ia$$

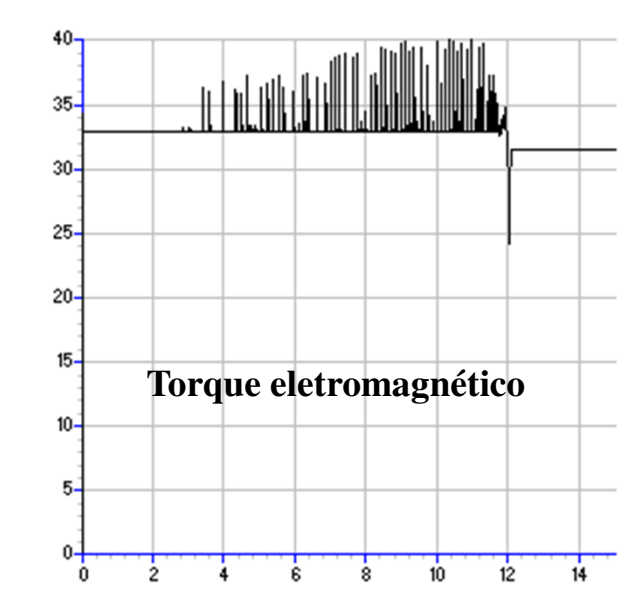
$$Tel = k\Phi ia = J\frac{d\omega}{dt} + B\omega + T_W$$

Limitação da corrente pela tensão de armadura

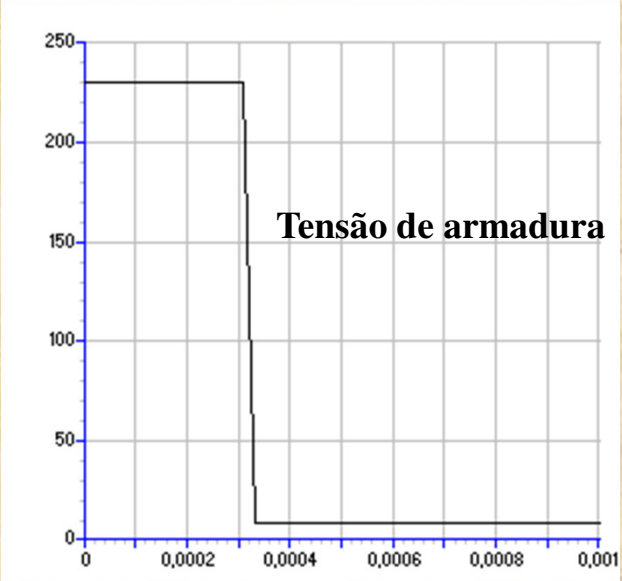


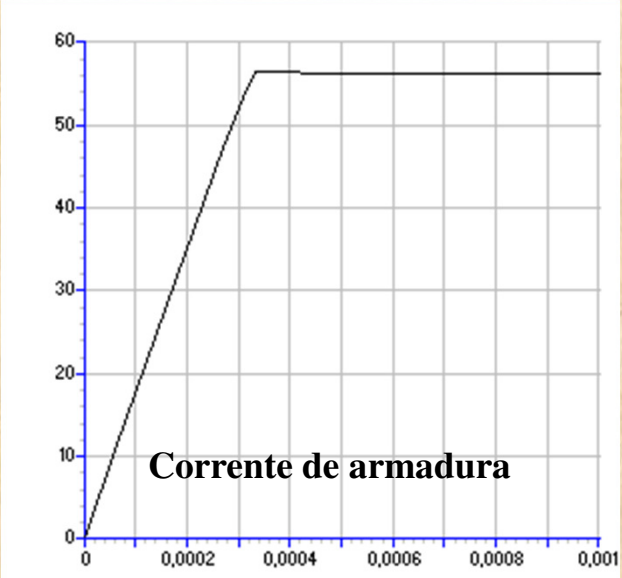


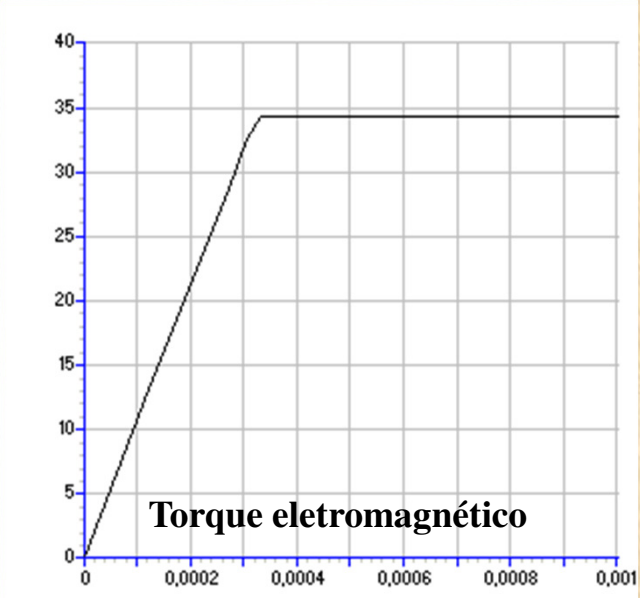




Limitação da corrente pela tensão de armadura (detalhes)







Limitação da corrente através de reostatos de partida