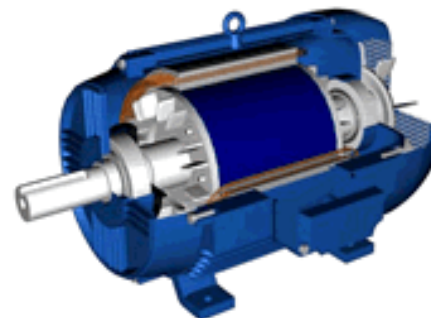
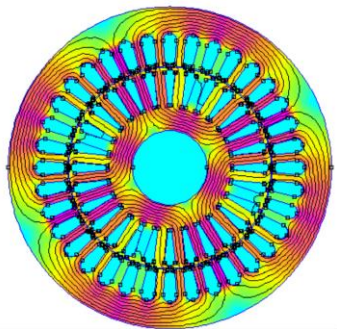
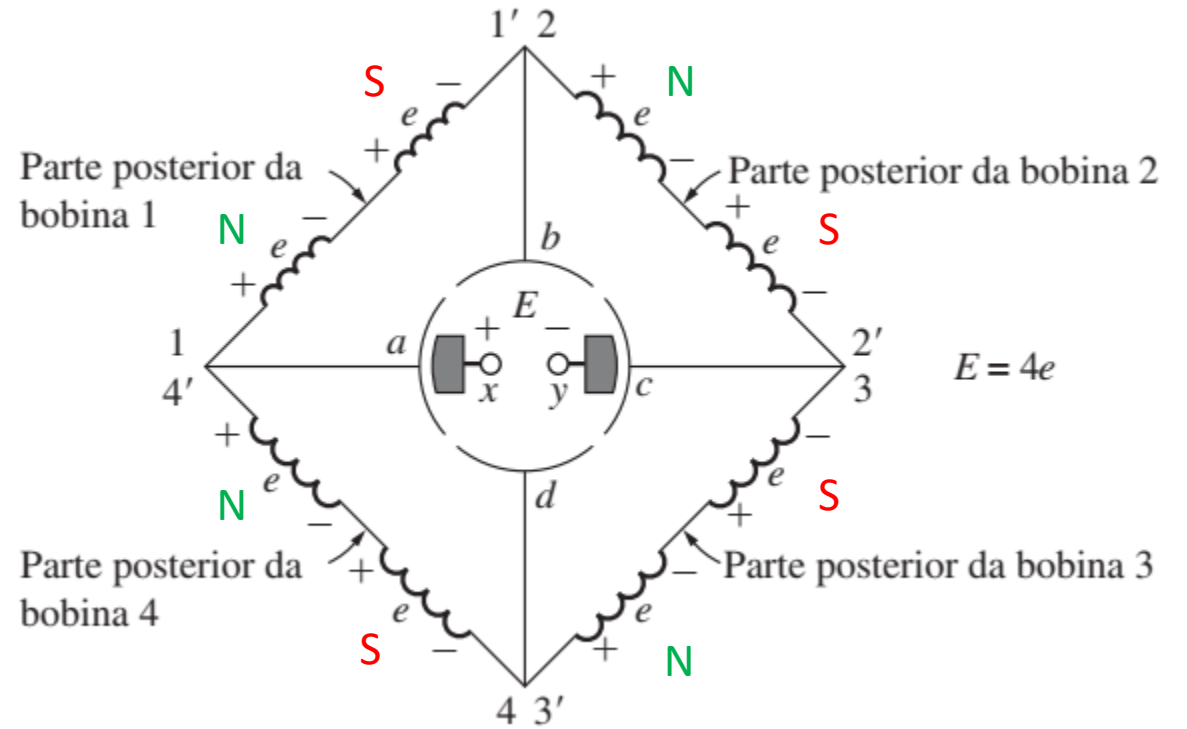
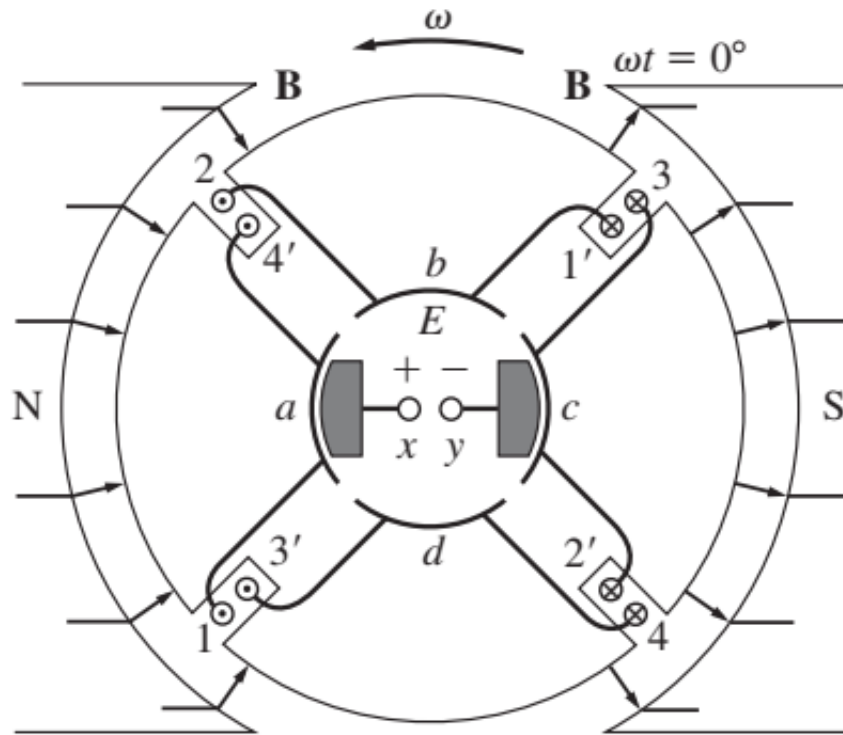


Comutação em uma máquina com 4 espiras

Prof. Allan Fagner Cupertino
afcupertino@ieee.org

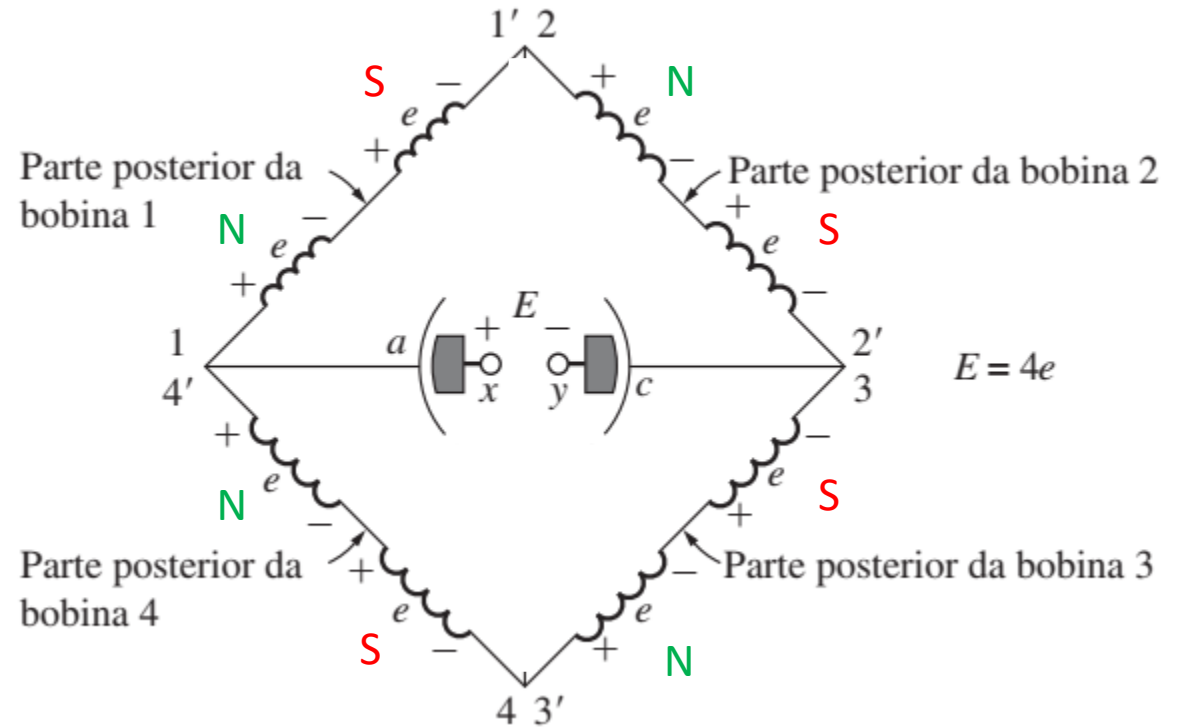
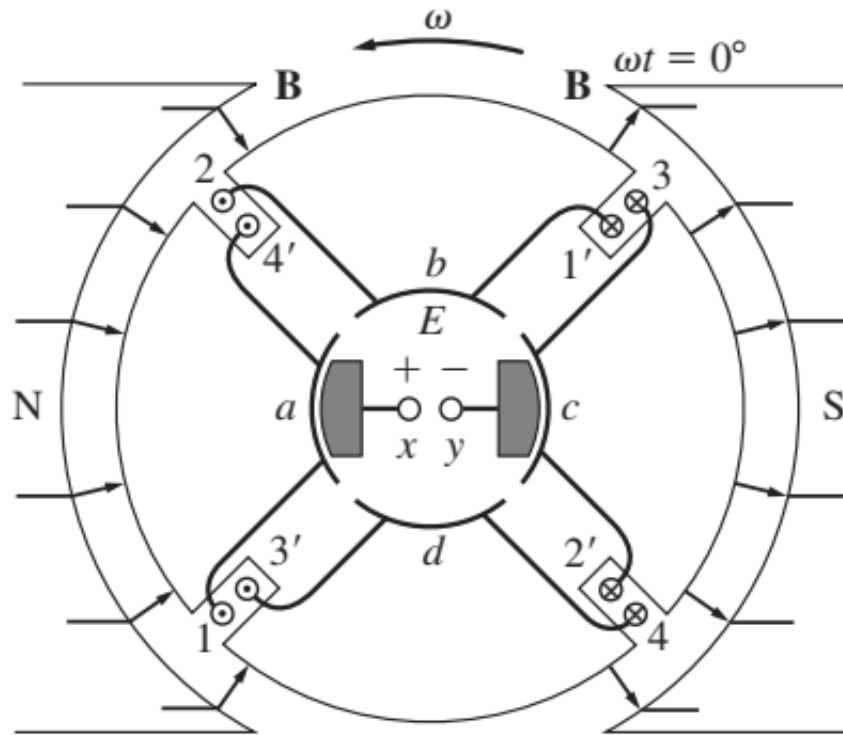


Máquina elementar de dois polos e quatro espiras



Fonte: S. J. Chapman. "Fundamentos de Máquinas Elétricas".

Máquina elementar de dois polos e quatro espiras

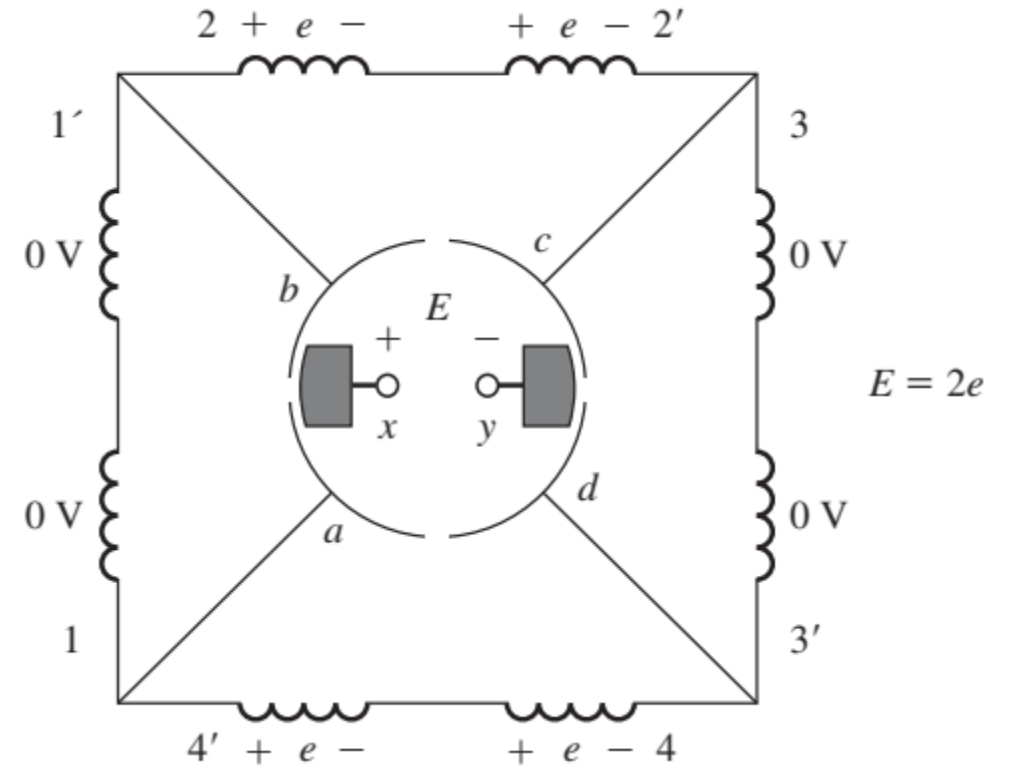
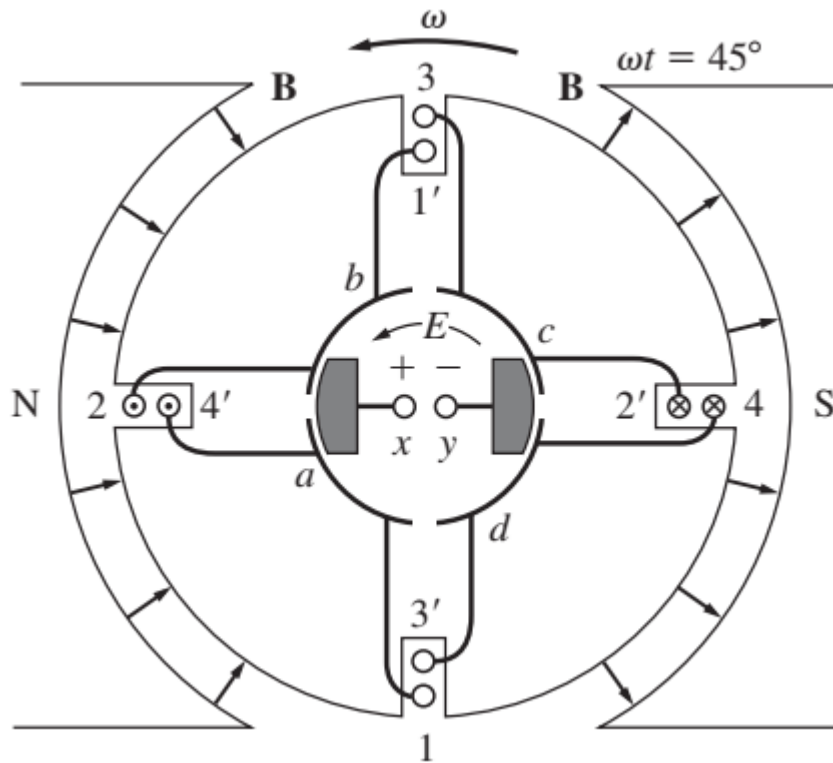


□ Note a presença de dois caminhos paralelos!

$$E = 4e = 4Blv$$

Fonte: S. J. Chapman. "Fundamentos de Máquinas Elétricas".

Máquina elementar de dois polos e quatro espiras

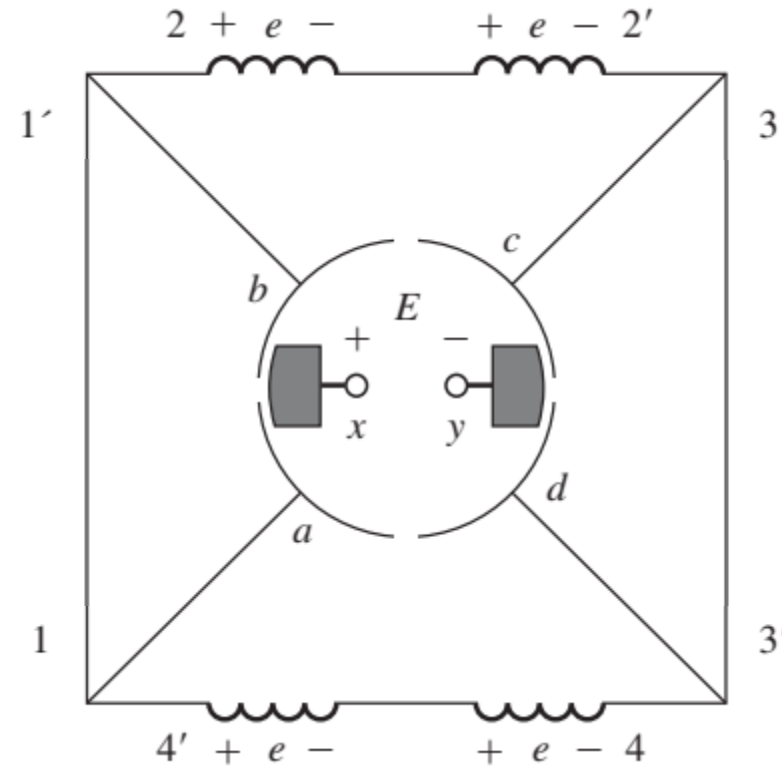
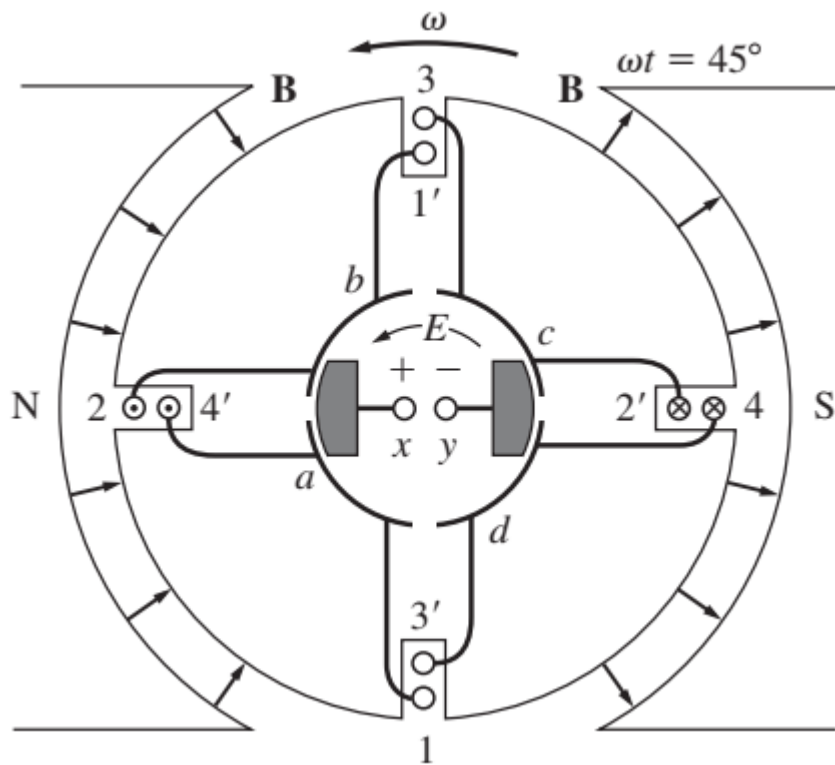


❑ Curto circuito não será um problema se a tensão induzida for nula!

❑ Linha neutra!

Fonte: S. J. Chapman. "Fundamentos de Máquinas Elétricas".

Máquina elementar de dois polos e quatro espiras

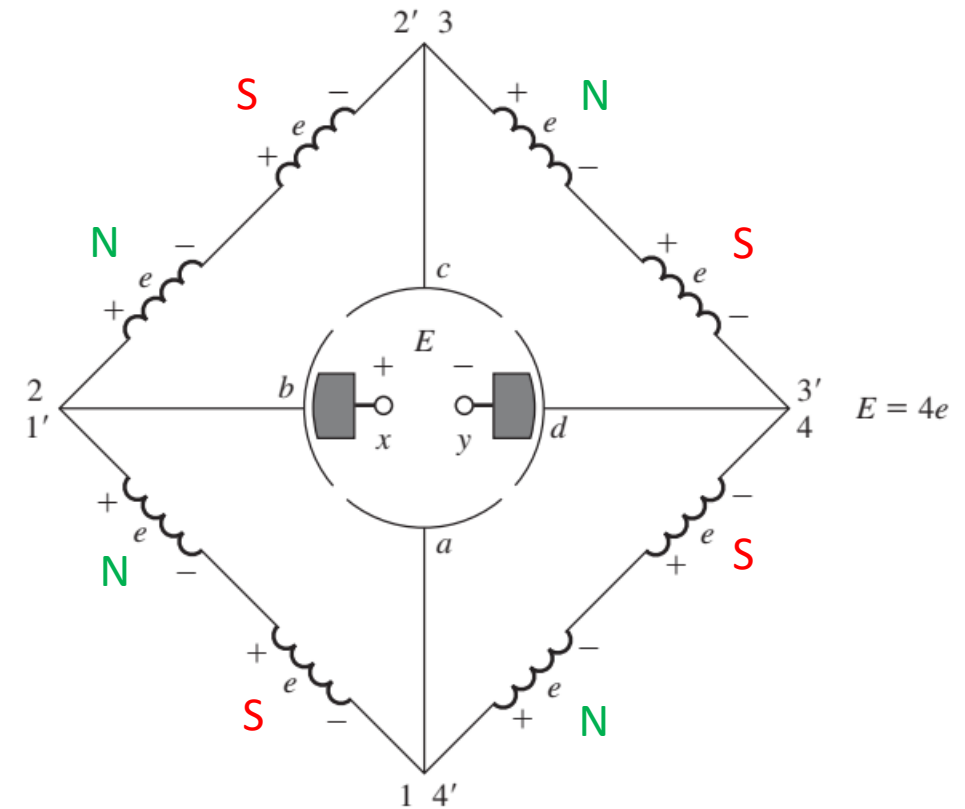
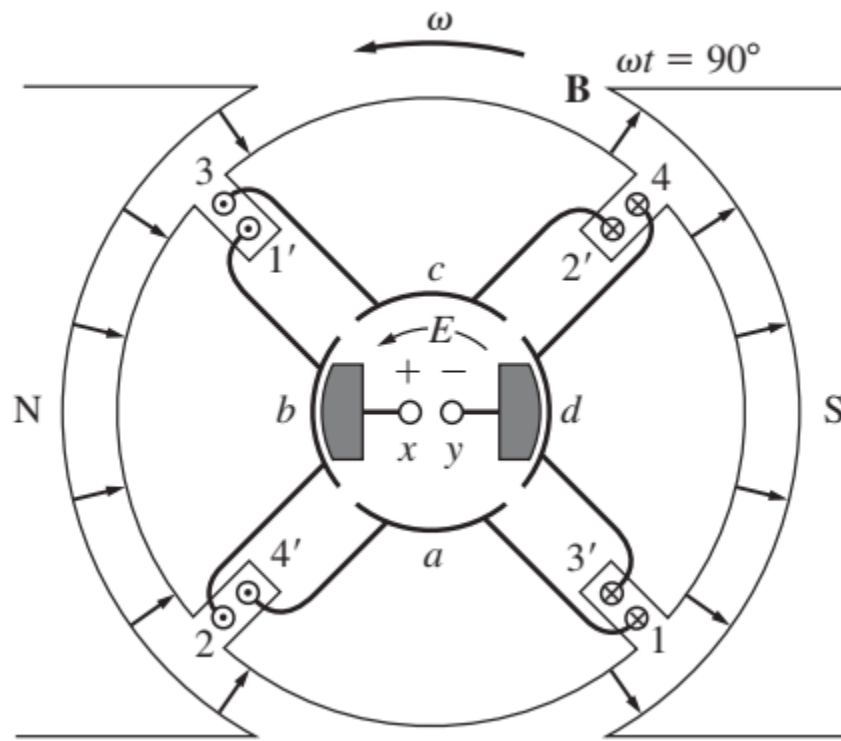


□ Note a presença de dois caminhos paralelos!

$$v_{xy} = 2e = 2Blv$$

Fonte: S. J. Chapman. "Fundamentos de Máquinas Elétricas".

Máquina elementar de dois polos e quatro espiras

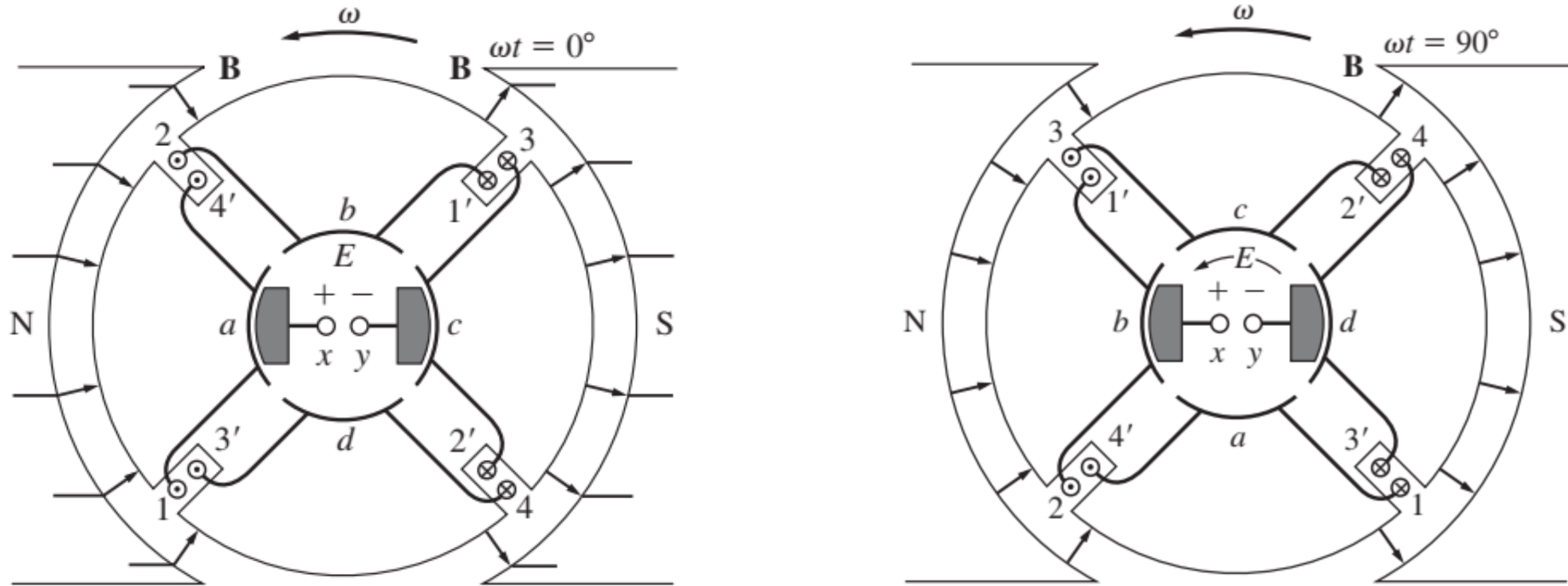


□ Note a presença de dois caminhos paralelos!

$$E = 4e = 4Blv$$

Fonte: S. J. Chapman. "Fundamentos de Máquinas Elétricas".

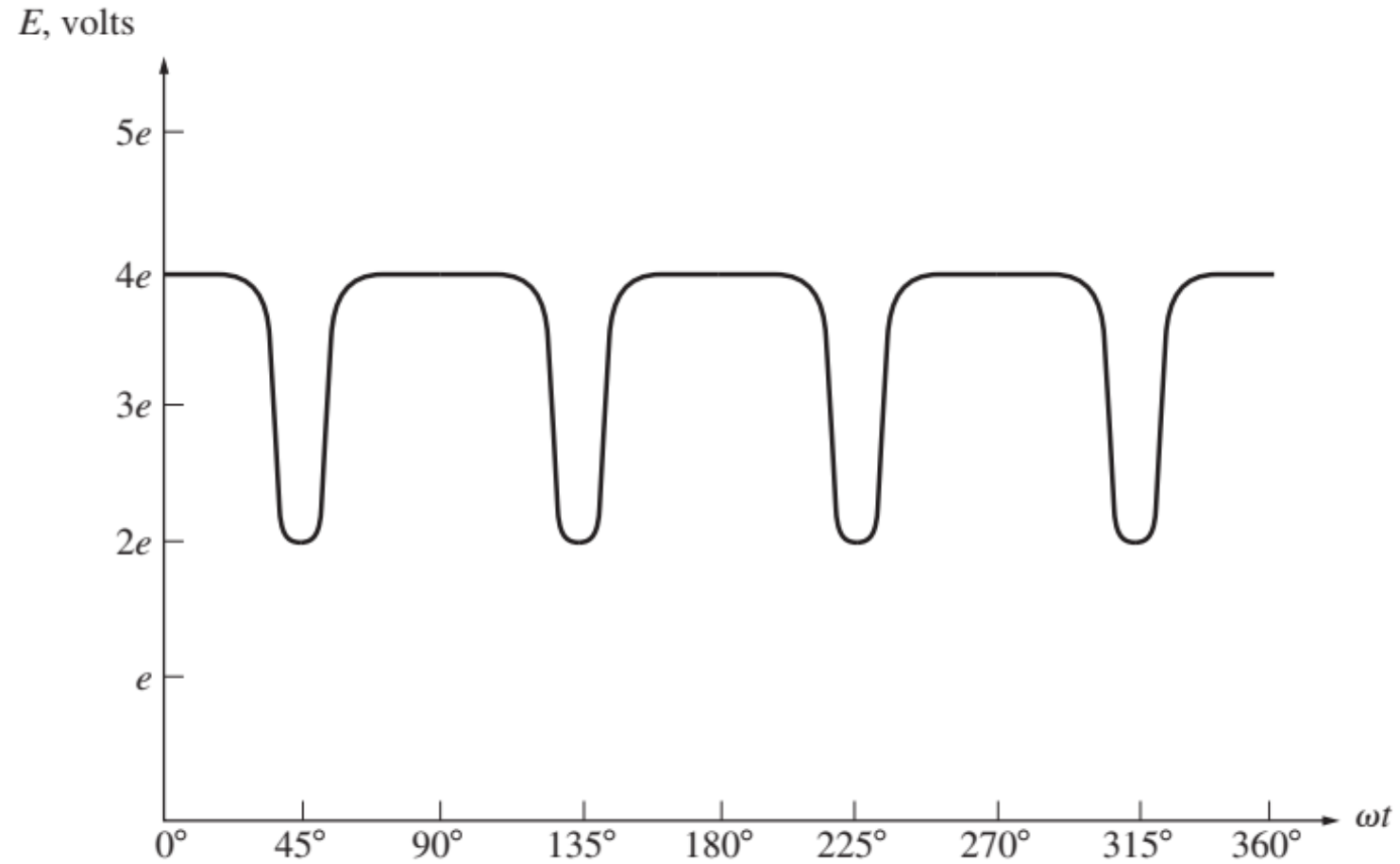
Máquina elementar de dois polos e quatro espiras



- ❑ Princípio de comutação: Inverte-se o sentido das conexões quando a polaridade da tensão induzida muda!

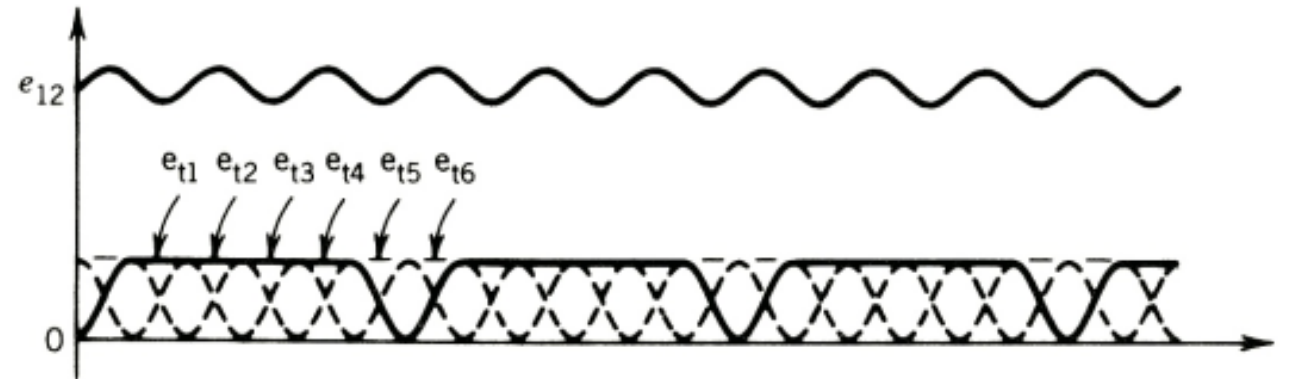
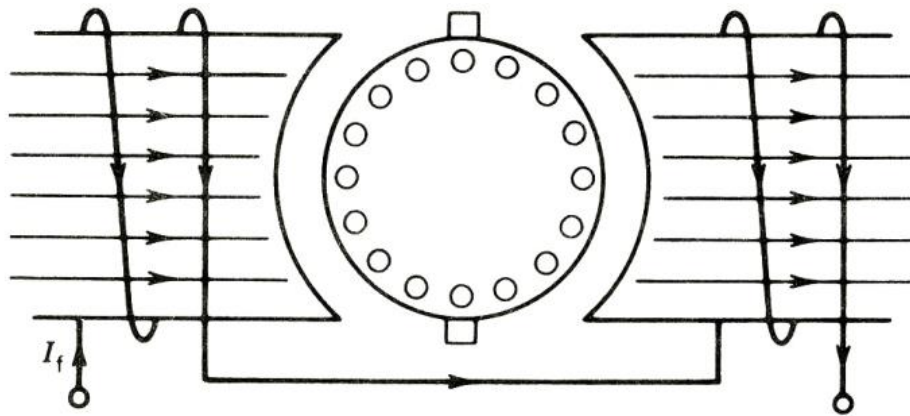
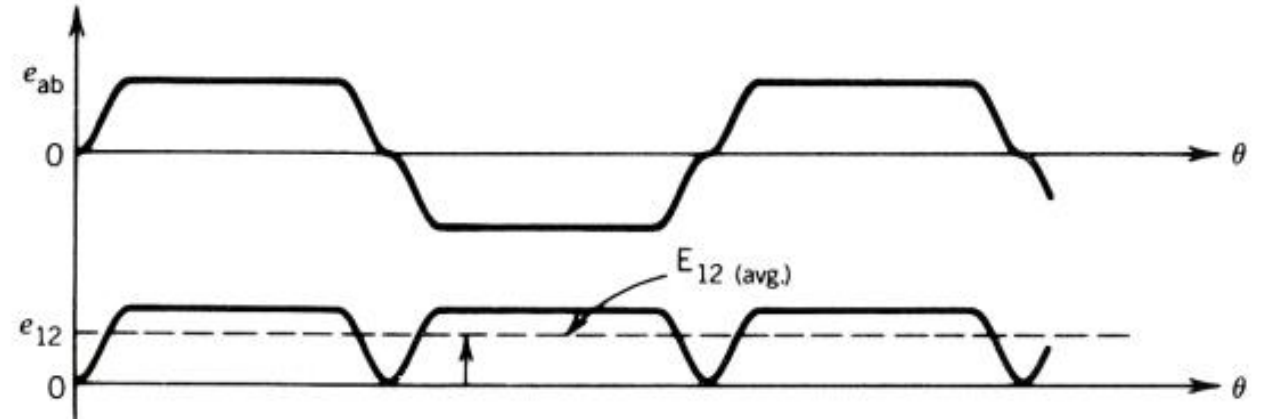
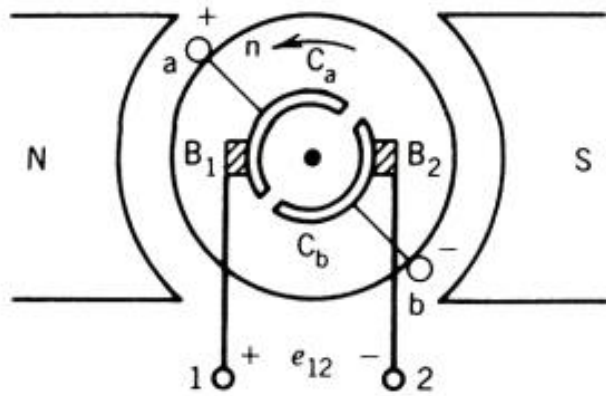
Fonte: S. J. Chapman. "Fundamentos de Máquinas Elétricas".

Tensão resultante



Fonte: S. J. Chapman. "Fundamentos de Máquinas Elétricas".

Extensão do conceito anterior para N espiras



Fonte: P. C. Sen. "Principles of Electrical Machines and Power Electronics".

Obrigado pela Atenção



Bons estudos!



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