indmc2.gce

Description

`indmc2.gce` is an induction machine with the following model equations:

$$i_{ds} = \frac{l_r}{l_m l_e} \psi_{ds} - \frac{1}{l_e} \psi_{dr}$$

$$i_{dr} = \frac{1}{l_m} \psi_{ds} - \left(\frac{l_{ls}}{l_m} + 1\right) i_{ds}$$

$$i_{qs} = \frac{l_r}{l_m l_e} \psi_{qs} - \frac{1}{l_e} \psi_{qr}$$

$$i_{qr} = \frac{1}{l_m} \psi_{qs} - \left(\frac{l_{ls}}{l_m} + 1\right) i_{qs}$$

$$T_{em} = \frac{3}{4} l_m \left(i_{qs} i_{dr} + i_{ds} i_{qr}\right)$$

$$\omega_r = \frac{P}{2} \omega_{rm}$$

$$\dot{\psi}_{ds} = v_{ds} - r_s i_{ds}$$

$$\dot{\psi}_{qs} = v_{qs} - r_s i_{qs}$$

$$\dot{\psi}_{dr} = -\omega_r \psi_{qr} - r_r i_{dr}$$

$$\dot{\psi}_{qr} = \omega_r \psi_{dr} - r_r i_{qr}$$

$$\dot{\omega}_r = \frac{P}{2} \frac{T_{em} - T_L}{J}$$

Note that `indmc2.gce` uses the same model equations as `indmc1.gce`. However, many of the "internal" variables are treated in `indmc2.gce` as auxiliary variables. The quantities `tem`, `psids`, `psidr`, `psiqs`, `psiqr`, `ids`, `idr`, `iqs`, `iqr` are made available as output variables.

AC behaviour is not implemented.