



$$R'_r = \left( \frac{N_s}{N_r} \right)^2 R_r$$

$$X'_r = \left( \frac{N_s}{N_r} \right)^2 X_r$$

$$i'_a(t) = \frac{sE_s}{\sqrt{R_r'^2 + s^2 X_r'^2}} \cos(s\omega_e t - \theta_0 - \phi_z)$$